

1989 ANNUAL EXHIBITION

Imperial College, London SW7 — 28 October 1989

The major event of the Society's calendar was once again a splendid success. 275 people signed the visitor's book, and 152 exhibits graced the long tables of the Sherfield Room. The following account of exhibits has been compiled by R.D.G. Barrington (British butterflies), B.F. Skinner (British Macrolepidoptera), J.M. Chalmers-Hunt (British Microlepidoptera), B. Goater (Foreign Lepidoptera), P.J. Chandler (Diptera), R.A. Jones (Coleoptera and Hemiptera), A.J. Halstead (Hymenoptera and other orders) and E.S. Bradford (Illustrations). Andrew Halstead also acted as the Society's Exhibition Organizer, and the occasion was made such a smooth success through his hard work.

After the exhibits had been cleared away, members and guests sat down to the Annual Dinner.

The 1990 Annual Exhibition will take place at Imperial College on Saturday 27 October 1990.

BRITISH BUTTERFLIES

The best summer for 13 years allowed many species to undergo good population increases and the long summer was reflected in the number of exhibits on show, although there were perhaps fewer wild-caught aberrations than might have been expected in such a year. Several interesting exhibits illustrated the results of breeding from aberrant forms, two of which were of outstanding quality, and our members continue to experiment, with considerable success, on temperature-induced aberrations.

BAILEY, K.E.J. — Further results from this exhibitor's very extensive experiments on temperature shock treatment of early pupal nymphalids. The major finding has been that the response to shocking the pupa with heat or cold is enhanced by giving temperature or photoperiod shocks to the pre-pupal larva. The precise mechanism of pigment formation and deposition on the developing wings that is affected by shock treatment is not entirely understood, but these results suggest that it starts a few days prior to pupation.

A range of extreme aberrations were shown, including a very striking *Nymphalis antiopa* L. ab. *hygiaea* Heyd. with the yellow border suffused halfway across all wings (final instar larva changed to short photoperiod, then pupa heat-shocked), *Argynnis paphia* L. ab. *ater*, a heavily melanic insect (treatment as with *antiopa* but pupa cold-shocked), *Cynthia cardui* L. ab. *elymi*, several very extreme forms (larva given 2–3 days cold stress at 5°C then pupa cold-shocked). Other species included *Nymphalis indica vulcania*, a new aberration with greatly extended red bands, *Vanessa atalanta* L. ab. *klemensiewiczzi* Schille, *Nymphalis polychloros* L. ab. *testudo* Esp., *Aglais urticae* L. ab. *semiichneusoides* Pronin, a confluent *Issoria lathonia* L. and *Melicita athalia* Rott. ab. *corythallia* Hübn.

The results from these inventive experiments are of considerable importance in our understanding of the processes of pigment formation and deposition.

BARRINGTON, R.D.G. — Aberrations caught and bred in North Dorset in 1989. (a) *Maniola jurtina* L. a female ab. *fracta* Zweigl bred in the F₁ from a transitional female. The F₁ produced an indeterminate range of type through to *fracta*. One male and two female *postmultifidus* Lipscomb also bred in F₁ from a transitional *postmultifidus* parent. One female was an extreme ab. *antiaurulancea* Leeds with the upperside fulvous reduced to a thick ring around the apical spot. As with *fracta* the F₁

generation showed a range of insects from type to *postmultifidus*. F₂ generations will be needed to determine the precise mode of inheritance.

(b) *Maniola jurtina* L. aberrations captured in North Dorset, including, from a hay meadow, females ab. *crassipuncta* — *excessa* Leeds, *fracta* Zweigt, *antiobscura* Leeds, a pair of *atrescens* Leeds, an example with a black patch on the underside of one hindwing (partial expression of *atrescens*), and two homoeotic examples, one with brown and the other with orange streaks on the underside of one hindwing. From a North Dorset woodland, a male *subtus-albida* Leeds and a female with much of the underside of one forewing streaked with pale scaling, probably a homoeotic form.

(c) *Argynnis paphia* L. an extreme male ab. *nigricans* Cosm. heavily suffused and rayed with black, and *Lysandra coridon* Poda male ab. *alba* — *radiata* B.&L. These two were captured within a week and were almost certainly due to the high summer temperatures.

(d) *Lycaena phlaeas* L. ab. *extensa* Tutt and ab. *cuprinus* Peyer. *Pieris rapae* L. a male with a thick streak of black scales in the discal cell of the underside of the forewings.

BECCALONI, G.W. — An attractive female *Melitaea cinxia* L. ab. *horvathi* Aigner, bred May 1989 from wild stock.

CALLOW, M. — A very fine *Aricia agestis* F. ab. *deleta* Ckll. with the hindwings obsolete and the ground colour white. An insect of great rarity. A good pair of *Lysandra coridon* Poda ab. *cinnameus* B.&L. taken in 1988 and 1989. All from Surrey.

CRASKE, R.M. — A male *Celastrina argiolus* L. ab. *paucipuncta* Courv. bred from wild larvae in September 1989. This species had a tremendously successful year and larvae were abundant in late summer.

DENNIS, R.C. — *Aricia agestis* F. aberrations including two specimens with reduced spotting, one affecting the hindwings only, the other with spots missing on all wings. Ab. *snelleni* Ter Harr with the discoidal spot on the upperside of the forewings circled with white. These aberrations were from a colony in East Sussex. *Aricia artaxerxes* ssp. *sahnacis* Steph. from north-west England. The exhibitor records that the colonies of this subspecies tend to be of very small size (10–15 individuals) compared with the above colony of *agestis* which numbers up to 100 individuals. Five obsolete forms were shown (this aberration is much more frequent in *artaxerxes* than *agestis*) four of which were taken in 1988 when the conditions were unusually dry and sunny.

HARMER, A.S. — A good *Erynnis tages* L. ab. *suffusa-variegata* Tutt — a very pale form. Various forms of *Lycaena phlaeas* L. another species to benefit from the long summer — a male *ultraeleus* Leeds with heavily suffused forewings, ab. *extensa* Tutt, *remota* Tutt and several showing reduced hindwing bands (transitional to *obsoleta* Tutt). *Hipparchia semele* L. — a strongly marked female ab. *macrocellata* Lempke and a female ab. *thyone* Schultz with reduced forewing spots. *Plebejus argus* L. females of ssp. *caernensis* from Great Orme, some being almost entirely blue, and a male of an unnamed form with orange markings on the margins of all wings on the upperside.

Various extra broods of butterflies, reflecting the hot summer — *Boloria selene* L. (Devon, August 1989), *Pieris brassicae* L. third brood reared by Arran Harmer, aged 7. *Celastrina argiolus* L. — bred third generation specimens. These were of the summer form.

JONES, A.M. — (a) *Parage aegeria* L. — one of two very impressive breeding experiments at the exhibition. From a female ab. *parviocellata* Lempke with reduced

hindwing eye spots an F_1 of 23 specimens was reared, 13 of which (approx. 50%) showed reduced hindwing eye spots. The F_2 of 77 insects must have been a surprise to the exhibitor, 44 were very variable *parviocellata* (some with no hindwing eye spots at all, but the pale surrounds remaining.) and 22 were of a new and striking form with the pale markings between veins 2 and 3, and 3 and 4 of the forewings running together. Seven of the brood showed a combination of the new form and reduced eyespots. *Parviocellata* occurred in approx. 75% of the F_2 , suggesting that it is a pure dominant, the original parent being heterozygous. Further breeding, now in progress, should determine the inheritance of the new aberration.

(b) *Maniola jurtina* L. — aberrations captured in Surrey in 1989, including two gynandromorphs, one almost halved, the other with most of the right forewing male, the rest of the insect female. A fine male *grisea* — *argentacea* Ober., female ab. *fracta* Zweigl, female transitional to *atrescens* Leeds with black suffused hindwings and a female *radiata* Leeds. *Thecla betulae* L. a male with strong homoeosis on the underside of the left side, showing streaks of upperside colouration. Bred from type, inbred stock.

(c) *Lycaena phlaeas* L. — the results of breeding from ab. *radiata* Tutt, this specimen also having heavy underside hindwing spotting. The F_1 of 132 specimens comprised 58 with heavy spotting on the hindwings, 68 with reduced hindwing copper bands and six ab. *basijuncta* B.&L. The F_2 of 27 insects all had the heavy spotting, five were *basijuncta* and 14 *radiata* (including some good forms). Outcrossing F_2 examples to wild insects gave a brood of 110 specimens, 39 having heavy spotting (with eight *basijuncta* and one *costa juncta* Courv.). *Radiata/obsoleta* (expressions of the same gene) has been shown to be a recessive, so in this experiment the original parent must have mated with a heterozygous specimen to produce aberrations in the F_1 .

NASH, S. — *Strymonidia pruni* L. reared from the egg in 1989, from Oxon. stock collected 20 miles from the nearest recorded site for the species. *Colias croceus* Geoff. from Lyme Regis, Dorset, 27.vii.89.

PATEMAN, J. — A very good pair of *Argynnis paphia* L. ab. *ocellata* Frings, four aberrations of *Melitaea cinxia* L. including a female ab. *wittei* Geest. and a male with the central markings of the upperside forewings reduced. *Celastrina argiolus* L., two specimens, one being a summer brood female with very heavy borders, the other a possibly unique female showing the characteristics of ab. *fowleri* South of *Lysandra coridon* Poda on the hindwings. This white margin was also appearing at the bottom of the forewings. *Fowleri* occurs regularly in *coridon*, and a similar form has been recorded in *Plebejus argus* L. A mixed gynandromorph of *Maniola jurtina* L. with female streaks on three wings of a mainly male insect. A series of *Aricia artaxerxes* F. with some good examples of ab. *obsoleta* Tutt, and four bred *Lycaena phlaeas* L., two with the upperside forewing spots moved towards the discoidal, and two undersides showing the *costajuncta* courv. characteristic.

PAYNE, J.H. — Various melanic forms of *Aglais urticae* L. from temperature-shocked pupae, two *Vanessa atalanta* L. ab. *fracta* Tutt and a female *Anthocharis cardamines* L. ab. *lasthenia* Mull. bred from wild ova with the black apical patch almost absent.

PITTIS, REV.S.C. — Examples of *Carterocephalus palaemon* Pallas from Invernesshire, taken in late May 1989. A female *Aphantopus hyperantus* L. with enlarged eyespots and broad yellow surround approaching ab. *chrysophalaros* Collier and two aberrations with delightful histories. A striking *Inachis io* L. ab. *semi-ocellata* Frohawk handed to the exhibitor by a member of his congregation at the end of a service. The upperside was examined almost as an afterthought before its intended



Plate III. ANNUAL EXHIBITION 1989

- 1 *Pararge aegeria*, bred, A.M. Jones. 2. *P. aegeria*, bred, A.M. Jones. 3. *Lysandra coridon* ab. *alba-radiata*, Dorset, 1989, R. Barrington. 4. *Argynnis paphia* ab. *nigricans*, Dorset, 1989, R. Barrington. 5. *Anthocharis cardamines*, bred, Northants, J.H. Payne. 6. *Celastrina argiolus* ab. *nov*, bred, Sussex, J.E. Bateman. 7. *Polyommatus icarus* ab. *basielongata-caeca*, bred, L.D. Young. 8. *P. icarus* ab. *discoelongata/basielongata*, bred, L.D. Young. 9. *Aricia agestis* ab. *deleta*, Surrey, 1986, M. Callow. 10. *Ancistrocerus antilope*, Brownsham, Devon, 17.vi.89, S. Falk. 11. *Chrisis pseudobrevitarsis*, Brownsham, Devon, 17.vi.89, S. Falk. 12. *Didea alneti*, County Durham, 12.vii.89, A.E. Stubbs (col. G. Simpson). 13. *Epistrophe melanostoma*, Banstead Downs, Surrey, 15.v.88, R. Morris. 14. *Lymexylon navale* (male), Ashted Common, Surrey, 18.vi.89, I. Menzies.

Photo D. E. Wilson.



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Plate IV. ANNUAL EXHIBITION 1989

1: *Hadena perplexa*, Greatstone, Kent, 26.vi.89, S.P. Clancy. 2: *Thalpophila matura*, St Ives, Ringwood, Hants, J. Clarke. 3: *Cryphia muralis*, Shaldon, Devon, 23.viii.89, S.C. Pittis. 4 & 5: *Mesoleuca albiciliata*, bred, 14 & 20.v.89, A.R. Cronin. 6: *Eupithecia phoeniceata*, Brockenhurst, 24.ix.89, H.G.M. Middleton. 7: *Gnophus obscuratus*, A.S. Harmer. 8: *Opisthograptis luteolata*, Tolworth, Surrey, 2.ix.85, J.T. Scanes. 9: New species of hawkmoth (*Eurypteryx geoffreyi*), Khoa Yai National Park, Thailand, 9.iv.88, T.W. Harman. 10 & 11: Light and dark forms of *Elachista albifrontella*, M. Young and M. Harper. 12: *Phyllonorycter leucographella*, bred, Essex, 1-3.iv.89, A.M. Emmet. 13: *Mompha subdivisella*, bred, Oxford, 1988, P.H. Sterling and J.R. Langmaid. 14: *Sclerocona acutellus*, Leckford, Hants, 8/9.vi.88, M.J., P.H. and D.H. Sterling. (Figures 10 to 13 approx twice life size.)

Photo: D. E. Wilson

The cost of reproducing colour plates I to IV has been met by a grant from the Hammond and Crow Memorial Fund.

release. A perfect halved gynandromorph of *Maniola jurtina* captured by the exhibitors 4-year-old son who had spent some time trying to capture 'a butterfly'. When he succeeded, he insisted that his father box the specimen and examine it — to his consequent surprise!

ROBERTSON, T.S. — A series of *Lycaena phlaeas* L. bred in the F₁ from a captured parent (Berks.) with a reduced hindwing copper band. Twenty of this F₁ had almost or quite obsolete bands (*obsoleta* Tutt), and others had somewhat reduced bands. As with A.M. Jones's exhibit, the recessive *obsoleta* appeared in the F₁ and the same remarks would apply. As this is not a rare form it is quite possible that an aberration might pair with a heterozygote.

RUSSWURM, A.D.A. AND MIDDLETON, H.G.M. — An unusual *Vanessa atalanta* L. ab. *reducta* bred from Brockenhurst with three of the five white spots on the forewings absent. Two striking melanic forms of *Nymphalis polychloros* L. ab. *testudo* Esp. which were aberrant mainly on the forewings, one having the twin discal spots absent, both from heat-shocked pupae.

SALMON, M.A. — (a) Specimens taken in 1988–9. Dwarf forms of *Lysandra coridon* Poda and *L. bellargus* Rott., *Cynthia cardui* L. with symmetrical white patches on the forewings and an excellent albino *Pieris brassicae* L. ab. *albinensis* Gardiner — a very great rarity in the wild, although since its appearance along with the blue ab. *coerulea* Gardiner in B.O.C. Gardiner's Cambridge stock (in-bred for 80 generations) it has been extensively bred in captivity and is a recessive form. *Aphantopus hyperantus* L. with most scales absent from the left forewing, *Pyronia tithonus* L., a strongly marked ab. *excessa* Leeds from Devon, where some of the best forms of this aberration have been taken in the past, and *Colias alfacariensis* Berger from Dancer's Head in Bucks.

(b) Various aberrations from old collections including a remarkable series of *Lysandra bellargus* Rott. showing variation of the male upperside coloration from ab. *pallida* Mosley of a whitish blue through various suffused forms to very extreme specimens of ab. *suffusa* Tutt with dark grey suffusion totally obliterating the blue scaling. The original specimen of the striking *Strymonidia w-album* L. ab. *albo-virgata* Knoch, taken near Ipswich in 1859 and figured in E. Newman's *Natural history of British butterflies*. A specimen acquired at the same sale was ab. *suffusa* (taken by H.A. Leeds in 1933) with the orange marginal band replaced with chocolate brown coloration.

Maniola jurtina L. ab. *alba* Leeds figured by Frohawk in 1938 with heavy symmetrical bleaching in the centre of all four wings. A range of forms of *Colias croceus* Geoff. mainly showing variation of the black borders, but the best specimen was a superb ab. *purpurascens* Ckll. with the upperside of the hindwings of a deep grey-purple shade (figured in the recent *Moths and butterflies of Great Britain and Ireland*, vol. VII).

STANDING, P.A. — A range of bred *Melitaea cinxia* L. including an ab. *uhryki* Aign. (1989) and an extreme example of the same form bred in 1979 with much of the dark scaling absent from the underside of the hindwings and the orange scaling restricted to the basal area. A series of nine insects showing all stages of ab. *wittei* Geest with three well developed examples.

STOKES, D. — A range of *Inachis io* L. showing reduction of the hindwing eyespot from ab. *semi-ocellata* Frohawk to the blind peacock ab. *belisaria* Ober., from heat-shocked pupae.

SWIFT, S. — *Danaus plexippus* L. from Bury St Edwards, taken 1988 or 1989. This was almost certainly a local escape.

TUBBS, R.S. — A breeding experiment with *Maniola jurtina* L. ab. *pallens* Thiery-

mieg. The original female, taken in Beds. had very pale ground colour. This example was also ab. *bioculata* Rebel., the eyespot having two pupils. Five females obtained in the F₂ were all ab. *biocellata* Lempke with a divided apical spot, but none showed ab. *pallens*. As the brood was very small no significance can be attached to the results. *M. jurtina* is proving to be one of the more difficult species to breed in good numbers.

TREBILCOCK, G.D. — Aberrations from Wilts and Dorset in 1989. An interesting *Erynnis tages* L. taken in August with the black markings streaked in much the same manner as the white-streaked ab. *taras* Berg. in *Pyrgus malvae* L. A good *Hamearis lucina* L. female ab. *gracilens* Derenne with reduced black markings and two *Lysandra bellargus* Rott. showing reduced underside spotting, one being obsolete on the hindwings only, ab. *cinnides* Staud, the other totally obsolete — ab. *krodeli* Gillmer. Various obsolete forms of *Lysandra coridon* Poda and a female ab. *infrasmisyngrapha* Tutt which was *post-caeca* B.&L. on the underside. Two *Argynnis aglaja* L. with heavy central black markings on the upperside of the forewings and a male *Coenonympha pamphilus* L. with a heavy black border to the upperside.

WILTSHIRE, E.P. — A third generation *Celastrina argiolus* L. (a female of the summer form) bred from wild larvae in September 1989. This species showed a strong, natural third brood in some areas in 1989, but it is doubtful if the ivy buds would have lasted long enough to allow the subsequent larvae to grow to maturity.

YOUNG, L.D. — The second exhibit on show illustrating a highly successful breeding programme. This strain of *Polyommatus icarus* Rott. (ab. *antidiscoelongata* B.&L. crossed with *basielongata* B.&L.) has become something of a feature of the exhibition in recent years, and a selection of specimens from the three broods reared in 1989 showed that the continued selective inbreeding has produced more extreme specimens than ever, some with the *discoelongata* character now approaching ab. *radiata* Courv.

Two unusual specimens occurred this year: an outstanding male ab. *alba-radiata* B.&L. and a probably unique female showing the contrasting characteristics of *basielongata* and *caeca* B.&L. It is hoped that the strain can be successfully maintained to ascertain just how far the aberrations can be developed.

BRITISH MACROLEPIDOPTERA

BAKER, B.R. — An unusual variety of *Electrophaes corylata* Thunb. from Porlock, Somerset, on 23.vi.89; and some forms of *Agrotis clavis* Hufn. from Berkshire.

BECCALONI, G.W. — A selection of the forms of *Angerona prunaria* L. obtained from cross-paring f. *corylaria* Thunb. with ab. *aureocincta* Ob. The exhibit included data of the proportions of the phenotypes obtained and the probable genetics of the offspring.

BRITTON, M.R. — A selection of species taken in Yorkshire in 1989 included bred *Chloroclystis chloerata* Mab. from Duncombe Park, Helmsley; and a specimen of *Eilema deplana* Esp. from Hagg Wood, Dunnington, on 25.vii.89.

CLANCEY, S.P. — From Wallington, Surrey a gynandromorph *Agrotis exclamationis* L. on 17.vi.80. From Folkestone Warren, Kent, examples of *Standfussiana lucerneae* L., *Apamea furva* D. & S., *Scopula nigropunctata* Hufn. and *Aspitates gilvaria* D. & S. on 13.vii.89. From Dungeness, Kent, single specimens of *Polia trimaculosa* Esp. (*hepatica* auctt.) on 11.vi.89, *Ennomos autumnaria* Wernb. on 4.ix.89, *Semiothisa wauaria* L. on 13.vi.89, *Hyles gallii* Rott. on 6.viii.87, an extreme aberration of *Hadena perplexa* D. & S. on 16.v.89 and a gynandromorph *Noctua pronuba* L. on 20.viii.87. From Greatstone, Kent, *Actebia praecox* L. on 17.viii.88,

Parascotia fuliginaria L. on 8.viii.87, *Xestia agathina* Dup. on 29.viii.89, *Eilema caniola* Hübn. on 24.viii.84, *Mythimna loreyi* Dup. on 23.x.88, *Senta flammea* Curt. on 1.vi.87, *Cyclophora puppillaria* Hübn. on 24.x.88, *Deltote bankiana* F. on 7.vii.89 and *Scopula rubiginata* Hufn. on 17.viii.89.

CLARKE, DR J. — Aberrant moths taken in 1988 and 1989 included a striking *Thalophila matura* Hufn. and a very pale form of *Peribatodes rhomboidaria* D. & S. Other exhibits were a series of *Gnophus obscurata* D. & S. from a Dorest heath which interestingly were attracted to actinic light and not to normal m.v.l., and the fourth British mainland specimen of *Thera cupressata* Gey, taken at St Ives, Hants., on 24.x.88.

CLASSEY, E. W. — A selection of interesting aberrations taken at Uffington, Oxon, including a melanic specimen of *Ecliptopera silaceata* D. & S. and an almost obsolete *Spilosoma lubricipeda* L.

COOK, R. R. — Local species taken in 1989 included *Hydriomena ruberata* Frey. from Dorset and *Pelosia obtusa* H.-S. from Norfolk.

CORLEY, M. F. W. — Aberrant Lepidoptera collected in Oxfordshire in 1989 included *Mesoligea literosa* Haw. f. *aethalodes* Rich. from Faringdon on 24.vii. and a dark form of *Eilema deplana* Esp. from Bagley Wood on 21.vii.

CRONIN, A. — Aberrant moths taken at Portslade, Sussex, included a bred series of *Mesoleuca albicillata* L. showing several extreme dark and pale varieties.

EMMET, LT. COL. A. M. — The second Essex record of *Photedes fluxa* Hubn. and the first from VC19 taken at Saffron Walden on 25.vii.89, two examples of *Hemistola chrysoprasaria* Esp. from Saffron Walden on 6 and 21.ix.89 probably second brood specimens of a normally single brooded species, and a specimen of *Plusia festucae* L. from Saffron Walden on 5.viii.89, a usually rare species in Essex.

HALL, N. M. — Lepidoptera taken or bred during 1989 included a bred series of *Orthouama obstipata* F. bred from a female taken at Portland, Dorset, on 28.x.88, a bred series of *Cleora cinctaria* D. & S. from Great Ovens Hill, Dorset, a male and female of *Euxoa obelisca* Tutt from Eastbourne, Sussex, and from Holt Forest, Dorset, specimens of *Hydriomena ruberata* Frey., *Euphyia biangulata* Haw. and *Meganola strigula* D. & S.

HARMER, A. S. — A female *Gnophus obscurata* D. & S. having the area from the outer median band to the border of all wings dark grey broken only by white veining producing a rayed effect.

HAYWARD, R. — A selection of Macrolepidoptera taken or bred in the last few years included from the exhibitor's garden in Slough, Berks, a bred series of *Hadena compta* D. & S. and an example of *Mythimna straminea* Treit. taken in July 1986.

HECKFORD, R. J. — A dark form of *Hylaea fasciaria* L. from Plympton, Devon, on 20.vi.89, a diminutive *Noctua pronuba* L. from St Marys, Isles of Scilly, on 22.viii.89 and a specimen of *Mythimna loreyi* Dup. from Brixham, Devon, on 29.vii.89.

HENWOOD, B. — A very small example of *Alcis repandata* L. with a wingspan of 35 mm from Seaton, Devon, on 12.vi.89 and a female *Hypena obsitalis* Hübn from Brixham, Devon, on 29.vii.89.

HIGGS, G. E. — A selection of moths taken in Guernsey from 21.v.89–3.vi.89 included specimens of *Bembecia muscaeformis* Esp., *Cepphis advenaria* Hübn., *Hadena luteago* D. & S. and *Cucullia lychnitis* Ramb.

JENKINS, A. — Migrant and aberrant species taken in 1989 included *Cymatophorina diluta hartwegi* Reis. ab. *nubilata* Rob. from Chiddingfold, Surrey, *Heliothis armigera* Hübn. from Portland, Dorset, on 26.iv.89, *Mythimna unipuncta* Haw. from Portland on 27.ix.89 and *Rhodometra sacraria* L. from Chardstock, Devon, on 7.ix.89.

JEWESS, P.J. — *Opisthograptis luteolata* L. ab. *albescens* Cockerell; exhibited on behalf of Mr J.S. Badmin.

KNILL-JONES, S.A. — A selection of interesting captures from Freshwater, Isle of Wight, in 1989. Of special interest were specimens of *Heliothis armigera* Hübn. on 25.ix., *Rhodometra sacraria* L. on 19.x., four *Mythimna albipuncta* D. & S. from 4.ix.–23.x., ten *M. unipuncta* Haw. from 25.ix.–13.x. and a second brood specimen of *Ourapteryx sambucaria* L. on 24.x.

MCCORMICK, R.F. — A melanic *Idaea aversata* L. taken at Ashstead, Surrey, on 6.vii.89.

MIDDLETON, H.G.M. — A selection of mainly aberrant moths taken at Brockenhurst, Hants; of special interest were two specimens of *Eupithecia venosata* F. being the first records of this species from the area in 30 years of light trapping; and an unusual aberration of *E. phoeniceata* Ramb.

NASH, S. — From Fernham, Oxon, *Xylota exsoleta* L. on 29.iii.89, *Spodoptera exigua* Hübn. on 25.vii.89, *Orthonama obstipata* F. on 16.vi.89, *Rhodometra sacraria* L. (11 noted between 22.vii. and 26.x.89, *Macroglossum stellatarum* L. on 26.ix.89, *Arenostola phragmitidis* Hübn. on 2.viii.89. From Portland, Dorset, *Idaea vulpinaria atrosignaria* Lempke on 6.vii.89 and from Stroud, Gloucestershire, *Setina irrorella* L. on 24.vi.89.

PARSONS, M. — Local and migrant species noted in 1989 included *Aleucis distinctata* H.-S. taken near Preston St Mary, Suffolk on 8.iv., *Simyra albovenosa* Goeze from Dungeness, Kent. on 24.vii., *Heliothis armigera* Hübn. from Ninfield, Sussex, on 23.ix. and *Mythimna albipuncta* D. & S. from East Sussex, on 26.ix.

PENNEY, C.C. AND MCCORMICK, R.F. — Moths taken on a collecting trip to Norfolk from 26.vii–5.viii.89 included single examples of *Xanthorhoe biriviata* Borkh. from Horning on 22.vii. and *Scopula rubiginata* Hufn. from Horsey Dunes on 23.vii.

PHILLIPS, J. AND COOK, R.R. — Larvae of *Mythimna unipuncta* Haw. bred from a female taken at Portland, Dorset, on 24.ix.89.

PICKLES, A.J. AND C.T. — Lepidoptera taken or bred mainly in 1989 included *Cyclophora linearis* Hübn. ab. *fasciata* Prout from Lyndhurst, Hants., *Elaphria venustula* Hübn. also from Lyndhurst, an almost uncoloured pale brown specimen of *Colocasia coryli* L. from Winchester, Hants. and a short series of *Scotopteryx mucronata unbrifera* Heyd. bred from larvae collected in Somerset in November 1988.

PITTIS, REV. S.C. — A selection of local and migrant species mainly bred in 1989. Highlights of the exhibit was an extreme variety of *Cryphia muralis* Forst. found resting on a wall at Shaldon, Devon, on 23.viii.89 and *Trachea atriplicis* L. taken at light at Woking, Surrey, on 5.vii.89.

PLATTS, J. — A series of *Luperina nickerlii nickerlii* Frey. bred from larvae and pupae from Borrer's saltmarsh-grass (*Puccinellia fasciculata* (Torr.) Bicknell) at Faversham, Kent in July 1989. From the same locality were examples of *Hydraecia micacia* Esp. bred from larvae and pupae from dock (*Rumex* spp.).

PRATT, C. — Single specimens of *Tetheella fluctuosa* Hübn. having a transverse black band at the antemedian fascia taken at Ashdown Forest, Sussex on 11.vi.89, and *Agrotis exclamationis* L. having the normal ground-colour confined to the lower half of the left hand side of the forewing with the remainder of the left hand wing and the whole of the right hand wing having a yellowish-cream ground-colour.

SCANES, J.T. — A selection of moths taken in the Wye Valley and Forest of Dean between 19 and 24.vi.89 included *Sabre harpagula* Esp., *Eupithecia egenaria* H.-S.,

Atolmis rubricollis L. and *Euphyia biangulata* Haw. Among aberrations taken at Tolworth, Surrey, was a striking form of *Opisthograptis luteolata* L.

SKINNER, B. — Moths taken or bred during 1989 included a short series of melanic *Ematurga atomaria* L. from Yorkshire, two specimens of *Heliothis viraplaca* Hufn. from Tilshead, Wilts., on 27.vii., single examples of *Enargia paleacea* Esp. from Broxbourne, Herts, on 24.viii., *Hippotion celerio* L. from Swanage, Dorset, on 26.ix., and *Melanthia procellata* D. & S. ab. *nigrapicata* Cockayne from Snodland, Kent, on 10.vii. A photograph of the larva of *Thera cupressata* Gey. received from Dr P. Costen of Guernsey together with two male examples of the adult taken at Swanage, Dorset, on 9 and 18.x.

STERLING, P.H. — A small specimen of *Xanthorhoe fluctuata* L. which has the central band reduced to a black spot, taken at Oxford on 4.ix.89.

WEDD, D. — A wide variety of species taken or bred from the Burren, Cos Clare/Galway in late July and early August 1989. Of special interest were specimens of an unusually dark race of *Archanaea algae* Esp., the pale form of *Perizoma minorata* Treit., a semi-albino specimen of *Eupithecia distinctaria constricta* Guen., specimens of *Cryphia muralis* Forst and a bred series of *Plusia festucae* L. bred from a female found ovipositing on meadowsweet (*Filipendula ulmaria* L.) and reared on the same plant. From elsewhere were a series of *Noctua comes* Hübn. from the Island of Lundy, showing the wide variation achieved after nine generations, and a second brood specimen of *Hemaris fuciformis* L. taken at Marlow, Bucks, in August 1989.

WINTER, P.Q. — Local or migrant Lepidoptera taken or bred in south-east Yorkshire included two bred specimens of *Amphipoea fucosa paludis* Tutt bred from the egg on cock's-foot grass (*Dactylis glomerata* L.), three *Hyles gallii* Rott. bred from a female taken on 7.vii.89, a pair of *Orthonamia obstipata* F. bred from a female taken at Muston on 23.x.88, a possibly immigrant example of *Euproctis chrysorrhoea* L. from Flamborough on 8.vii.89 and the first *Agriopis leucophaearia* D. & S. taken in over 25 years of continuous trapping at Muston. A selection taken at Swanage, Dorset, on the 20th & 21st September included the following migrants; *Rhodometra sacraria* L., *Mythimna loreyi* Dup. and *M. albipuncta* D. & S.

WILD, E.H. — A specimen of *Orthosia stabilis* D. & S. showing pronounced melanism.

YOUNG, D. — Two examples of *Opisthograptis luteolata* L. ab. *ruficosta* Lempke from Northants and Hampshire, a late example of *Idaea degeneraria* Hübn. from Portland, Dorset, on 12.ix.89, two bred specimens of *Heliothis maritima warneckei* Bours. from Chobham Common, Surrey, and single examples of *Mythimna unipuncta* Haw. from Studland, Dorset, on 11.ix.89 and *M. l-album* L. from Dungeness, Kent, on 23.ix.89.

YOUNG, DR M.R. — Unusual forms and varieties of Scottish Macrolepidoptera included paler and more variegated specimens of *Perizoma bifaciata* Haw. from the Isle of Barra, a bilateral gynandromorph of *Diarsia mendica* F. from Wester Ross, a melanic *Zygaena purpuralis* Brun. from the Isle of Canna and a darkly suffused example of *Scotopteryx luridata plumbaria* F. from Aberdeenshire.

BRITISH MICROLEPIDOPTERA

AGASSIZ, REV. D. — Sprigs of *Pyracantha coccinea* (Roem) containing mines of *Phyllonorycta leucographella* Zell., collected in Grays, Essex 29.x.1989. This species discovered this year appears to be continuously brooded, mines of all sizes can be seen, and an adult was taken also this morning (29.x.89) by R.J. Heckford.

BAKER, B.R. — Micros taken or bred from Berkshire VC22 in 1989: *Eriocrania*

chrysolepidella Zell., Unhill Wood, 23.iv.89, two females in the area where mines were noted last year. *Coleophora alnifoliae* Bar., Mortimer West End, 20.v.89, a specimen bred from a case found on *Alnus* on 15.vi.88. *Elachista biatomella* Stt., Chawridge Bank N.R., 17.v.89, 19.vii.89. *Agonopterix nervosa* Haw., Chawridge Bank N.R., 17,18.vi.89 bred from *Genista tinctoria* L. *Anarsia spartiella* Schr., Chawridge Bank N.R., 11.vi.89, bred from *Genista tinctoria* L. *Sorhagenia lophyrella* Doug., Unhill Wood, 9-14.vi.89, bred from spinings on *Rhamnus catharticus* L. collected 17.v.89; new to VC22. *Cydia compositella* F., Near Enborne, 20.vii.89. *Dichrorampha sylvicolana* Hein., Near Enborne, 16.vii and 3.viii.89, amongst *Achillea ptarmica* L.; new to VC22. *Platyptilia pallidactyla* Haw., Near Enborne, 20.vii.89 amongst *Achillea ptarmica* L.

BLAND, DR K.P. — *Aristotelia ericinella* Zell., Westmuir Common (O.S. Grid N03652), Angus (VC90), 15.vii.89; new to Scotland. *Coleophora spissicornis* Haw., Castlecraig (O.S. Grid NT1344), Peebleshire (VC78), at light 13.vi.89; new to VC78. *Caloptilia leucapenella* Steph., Ross Wood (O.S. Grid NS3795), Stirlingshire (VC86), 2.ix.89; new to VC86. *Nemophora minimella* D. & S., Westmuir Common (O.S. Grid N03652), Angus (VC90), 15.vii.89; new to VC90. *Cydia lunulana* D. & S., Glen Fender Meadows (O.S. Grid NN8967), East Perth (VC89), 18.vi.89. *Ancylis tineana* Hubn., Schiehallion (O.S. Grid NN7157), Mid Perth. (VC88), 24.vi.89; Glen Fender (O.S. Grid NN8967), East Perth. 18.vi.89; new to VC89. *Argyresthia glaucinella* Zell., by the River Shin (O.S. Grid NH5798), East Sutherland (VC107), moth emerged 30.v.89 from workings in the bark of old birch trees collected 13.v.89; workings were common in the area.* On behalf of Martin Robinson (rspb warden, Tulloch Hill Res.): *Rhigignostis incarnatella* Steud., Balrobbie Farm (O.S. Grid NN9062), Mid Perthshire (VC88), 19.v.89; new to VC88.

CHALMERS-HUNT, J.M. — *Cydia medicaginis* Kuznetzov, a short series taken 3.vii.89 at Grays, Essex, where it was discovered by the Rev. D. Agassiz. *Celypha contaminella* Hüb., three distinct forms: (1) pale form, sandy coloured, Portland, Dorset; (2) reddish-fuscous form; (3) blackish form, ab. *sticheli* Const. the latter two from Sizewell, Suffolk, 5.viii.89. *Sciota adelphella* F.v.R., five examples from Kent and one from Suffolk of this recently recognized British species, of which the first was taken by the exhibitor in Orlestone Forest, Kent in 1948; also, a single example of the closely related but relatively scarce *S. hostilis* Steph. from the same locality.

CHAMBERS, D.A. — *Euchromius ocella* Haw., East Malling, Kent, at m.v.l., 26.ix.89. *Ectomyelois ceratoniae* Zell., reared from a larva feeding on a walnut in a packet of mixed fruit bought at a Kent supermarket.

CLANCY, S.P. — The few micros included in this exhibit comprised specimens of *Stenodes alternana* Steph., 2.viii.88, *Pempeliella ornatella* D. & S., 2.viii.88 & 13.vii.89, *Pempelia obductella* Zell., 3.viii.89; all from Folkestone Warren, Kent. *Palpita unionalis* Hüb., 25.x.88, *Lozotaeniodes formosanus* Gey., 9.viii.88, *Acleris permutana* Dup., 20.vii.88, 14.vii.89; all from Dungeness. *Dioryctria abietella* D. & S., 8.vii.89, *L. formosanus* 2.viii.88, *Melissoblaptes zelleri* Joannis, 24.vi.88, *Nyctegretis lineana* Scop., 3.viii.88; all from Greatstone, Kent.

CLARKE, DR J. — The following interesting pyraloid: *Euchromius ocella* (L.) at m.v. light, St Ives, Ringwood, Hants., 12.xi.88.

CORLEY, M.F.V. — (a) Species from Oxfordshire: Swyncombe Downs, *Scythris*

* Oak or horse-chestnut bark are the normal pabula of *A. glaucinella*, and the species has not been recorded previously on birch to my knowledge — J.M.C.H.

fletcherella Meyr., reared 13.vii.89; Cumnor Hurst, *Coleophora trigeminella* Fuchs, 20.vi.89; Cumnor Hurst, *C. flavipennella* Dup. (grey-brown form), 20.vi.89. Cumnor, *Blastobasis decolorella* Wollaston, 20.vi.89; Faringdon, *Stenodes straminea* Haw., 24.vii.89; *C. coracipennella* Hübn., reared from sloe, 26.vi.89; *Scrobipalpa atriplicella* F.v.R., vii.89; *Eucosma pupillana* Clerck, 17.vii.89; *Yponomeuta rorrella* Hübn., 24.vii.89. (b) Species from Berkshire: Newbury, *C. solitariella* Zell., reared 15.vi.89; Dry Sandford, *Cosmopterix zieglerella* Hübn., reared from mine collected 4.viii.89, emerged 12.ix.89; Lambourne, *Agonopterix bipunctosa* Curt., reared 23.vi.89; Goring, *Telephila schmidtellus* Heyd., 9.vii.89; *Cochylis flaviciliana* West., 9.vii.89; *Pammene albuginana* Guen., 19.v.89; *Stenoptilia zophodactyla* Dup., 7.ix.89; *Pterophorus baliodactylus* Zell., 9.vii.89; *Eurhodope suavella* Zinck., 9.vii.89; *Microthrix similella* Zinck., 16.vi.89 (c) Species from Buckinghamshire: Bradenham, *Dichrorampha consortana* Steph., reared 1.vii.89. (d) Species from Perthshire: Loch Tay, *Scrobipalpa acuminatella* Sirc., reared 10.v.89 ex *Cirsium arvense* L.

EMMETT, LT. COL. A.M. — (a) Distribution maps of the Coleophoridae with statistics. (b) Distribution maps of the Elachistidae with statistics. (c) Specimens: *Phyllonorycter leucographella* Zell., Wickford, Essex, first generation iv.89, second generation vii.89; a species new to Britain. *Yponomeuta rorrella* Hübn., Saffron Walden, Essex, 25–27.vii.89, a species enjoying a periodic spell of abundance. *Y. evonymella* Hübn., to draw attention to a massive immigration in Essex. *Agonopterix ciliella* Staint., Saffron Walden, 6.viii.89, the first record for Essex. *Pandemis cinnamomeana* Tr., Saffron Walden, 11.vii.89, second record for VC19. *Argyrotaenia ljunghiana* Thunb., Saffron Walden, 25.vii.89; first record for VC19 for 40 years. *Anerastia lotella* Hübn., Saffron Walden, 14.vi.89, taken far from the coastal sandhills or Breck sands where it is resident.

FOSTER, A.P. — *Ethmia dodecea* Haw., Foulden Common, Norfolk, larva 23.viii.89. *Prochoreutis myllerana* F., Woodbastwick, Norfolk, larvae, moths bred 2.vii.89. *Acleris shepherdana* Steph. Stringshaw RSPB Reserve, Norfolk, larvae 13.vi.89, moths bred. *Calamotropha paludella* Hübn., Weeting Heath NNR, Norfolk, one at m.v.l. *Agriphila latistria* Haw., Winterton, Dunes, Norfolk, two 7.ix.89. *Phlyctaenia perlucidalis* Hübn., Brundall, East Norfolk, two 6.vii.89; Foulden Common, West Norfolk, 12.vii.89. *Anania verbascalis* D. & S., Hickling Broad, Norfolk, 29.vii.89.

HALL, N.M. — Longmoor Bottom, Berkshire, from the site here where the exhibitor found the uncommon *Phyllonorycter anderidae* Fletch. in autumn 1987, this continued to produce 100% *P. anderidae* in 1988.

HARPER, DR M. — *Pleurota aristella* L., two specimens were recorded in 1965 and 1971 from Jersey by R. Long and are in the National Jersey Collection. In vi.89, the specimens exhibited were found on dry grassland in Jersey, close to the site of the 1965 and 1971 examples; one came to light, while many others were seen flying short distances close to the ground between dawn and sunrise.

HECKFORD, R.J. — *Yponomeuta rorrella* Hübn., Plympton, Devon, 21.&22.vii.89; *Parocystola acroxantha* Meyr., Plympton, 15.&16.v.89, at light; *Eudonia mercurella* L., dark banded form, Stover Park, Devon, 4.viii.89. The following all from Ireland in 1989 while collecting with Dr J.R. Langmaid: *Coleophora pappiferella* Hofm., Leigh South, Co. Galway, 20–28.v; *Hypercallia citrinalis* Scop., Cahergrillaun, Co. Clare, ex l. 12–14.vi., *Polygala vulgaris* L., Clooncoose, Co. Clare, ex l. 16.vi., *P. vulgaris* L.; *Eulamprotes phaeella* Heckford & Langmaid, Leigh South, Co. Galway, 20–28.v.; new to VCH15; *Scrobipalpa murinella* H.-S., Leigh South, Co. Galway, 22.v., new to VCH15; Knockaunroe,

Co. Clare, 23.v.; *Aethes piercei* Obraztsov, Leagh South, Co. Galway, series showing intensity of markings, 20–28.v.; *Philedone gerningana* D. & S., Poulsallagh, Co. Clare, ex 1. 29.vi.–7.vii.; *Helianthemum canum* L.; *Eana penziana colquhounana* Barr., ex 1. 18–24.vi. *Helianthemum canum* L., Poulsallagh, Co. Clare; *Collicularia microgrammana* Guen., Rosslare, Co. Wexford, 2.vi., first confirmed Irish record; *Cydia lunulana* D. & S., Killinny, Co. Galway, 27.v.; *Platyptilia tesseradactyla* L., Killinny, Co. Galway, 27.v.; *Stenoptilia saxifragae* Fletch., ex 1. 17.vi., *Saxifraga hypnoides* L., Clooncoose, Co. Clare; ex 1. 18.vi. *S. hypnoides* L., Cahergrillaun, Co. Clare.

JEWESS, P.J. — *Sciota adelphella* F.v.R., recently recognized as an overlooked British species; it has previously been confused with *S. hostilis* Steph. These specimens are from N. Kent (See *Entomologist's Gaz.* 39: 271–274; *Entomologist's Rec. J. Var.* 101: 173–174).

KNILL-JONES, S.A. — The following from Freshwater, Isle of Wight, 1989. *Pyrausta cingulata* L. 23.vii.; *Ostrinia nubilalis* Hübn. 14.vi.; *Palpita unionalis* Hübn., 19.x.; *Epiblema foenella* L., 22.vii.

LANGMAID DR J.R. — All taken or bred in 1989. *Lampronia publicornis* Haw., Leagh South, S. Galway, 26.v.89; Clooncoose, Co. Clare, pupa on *Rosa pimpinellifolia* L., 25.v.89, bred; *Agonopterix capreolella* Zell., Leagh South, Co. Galway, 26.v.89; *Bryotropha umbrosella* Zell., Fanore, Co. Clare, 31.v.89; *B. mundella* Dougl., Fanore, Co. Clare, 31.v.89; *Syncopacma sangiella* Stt., Caher River, Co. Clare, 1. on *Lotus uliginosus* Schkuhr, 22.v.89, bred; Cahergrillaun, Co. Clare, 1. on *L. uliginosus* Schkuhr, 22.v.89, bred; *Anacamptis temerella* L. & Z., Rosslare, Co. Wexford, 1. on *Salix repens* L., 2.vi.89, bred; *Pancalia latreillella* Curt., Leigh South, Co. Galway, 21.v.89; *Clepsis rurinana* L., Doughbranneen, Co. Clare, 1. on *Arctostaphylos* 22.v.89, bred; Mullach Mor, Co. Clare, 1. on *Teucrium scorodonia* L. 26.v.89, bred; *Epiblema incarnatana* Hübn., Clooncoose, Co. Clare, 1. on *Rosa pimpinellifolia* L., 25.v.89, bred; *E. quadrana* Hübn., Leagh South, Co. Galway, 20.&24.v.89. *Stignella aceris* Frey, Ledbury, Hereford; *Phyllonorycter mespilella* Hübn., Swanmore, Hants, bred *Cotoneaster*; *Yponomeuta rorrella* Hübn., Southsea, Hants; *Coleophora niveicostella* Zell., Shrewton, Wilts, *C. therinella* Tengst., Southsea, Hants., *Denisia albinaculea* Haw., Southsea, Hants.; *Agonopterix scopariella* Hein., Hayling Is., Hants., bred from *Lupinus arboreus* Sims; *Psamathocrita argentella* P. & M., Southsea, Hants; *Mompha subdivisella* Bradl., Cock Clarks, Essex; *Cosmopterix lienigiella* L. & Z., Leckford, Hants, new to VC12; *Piercia gilvicomana* Zell., Swyncombe Downs, Oxon; *Cydia illutana* H.-S., Tubney Wood, Oxon, larch cones, bred; *Phlyctaenia perlucidalis* Hübn. Stalham, Norfolk, *Cirsium arvense* L., bred*; *Dioryctria abietella* D. & S., Tubney Wood, Oxon, larch cones, bred.

MACNULTY, DR B.J. — Species from the Gower Peninsula. *Lampronia oehlmanniella* Tr., *Yponomeuta cognatella* Hübn., *Carcina quercana* F., *Agonopterix assiniella* Tr., *Agapeta zoegana* L. *Aethes cnicana* Westwood, *Eupoecilia angustana* Hübn., *Pandemis corylana* F., *P. heparana* D. & S., *Archips podana* D. & S., *Cacoecimorpha pronubana* Hübn., *Celypha striana* D. & S., *Lozotaeniodes forsterana* F., *Epagoge grotiana* F., *Sparganothis pilleriana* D. & S., *Tortrix viridana* L., *Croesia forsskaleana* L., *Acleris variegana* L., *A. emargana* F.,

* This appears to be the first time this species has been bred, at least in Britain. These bred moths are lovely, and so different from the numerous caught specimens I have seen, all of which have been more or less worn. — J.M.C.-H.

Olethreutes lacunana D. & S., *Apotomis lineana* D. & S., *Epinotia solandriana* L., *Epiblema cynosbatella* L., *E. scutulana* D. & S., *Anana funebris* Ström, *Nomophila noctuella* D. & S.

NASH, S. — *Yponomeuta rorrella* Hübn., Fernham, Oxon, large numbers in 1989; *Chilo phragmitella* Hübn., Fernham, Oxon, 14.vii.89; *Galleria melonella* L., Fernham, 22.vii.89, 10.ix.89; *Microstega hyalinalis* Hübn., Stroud, Glos., 24.vi.89; *Numonia marmorea* Haw., Braunton, N. Devon, 24.vii.89; *Anerastia lotella* Hübn., Braunton, 24.vii.89.

PARSONS, M. — *Eucosma metzneriana* Tr., Rye Harbour LNR, East Sussex, 14.vi.89; third British example. *Spatalistis bifasciana* Hübn., Rye Harbour LNR, E. Sussex, 14.vi.89. *Pediasia aridella* Thunb., Rye Harbour LNR, 14.vi.89. *Tinagma balteolella* F.v.R., Dungeness, Kent, two bred from dead stems of *Echium vulgare* L. collected 30.i.89. *Pempelia genistella* Dup., several from Dungeness, bred from larvae collected vi.89. *Ostrinia nubilalis* Hübn., Ninfield, E. Sussex, 12.xi.89, one of several seen in autumn 1989. *Oncocera semirubella* Scop., Church Ope Cove, Portland, Dorset, 16.iv.89.

SIMPSON, DR A.N.B. — *Gelechia turpella* D. & S., Bexley, Kent, 29.vi.89. pupae under bark of *Populus nigra* L. var. *italica* (Duroi), hatched 20.vi.–8.vii.89. *Infurcitinea argentimaculella* St., Worcs, VC37, ex larvae 2–4.89. *Pammene germmana* Hübn., Tiddesly Wood, Worcs, VC37, resting on underside of aspen leaf, 7 a.m., 29.v.89. *Trifurcula subnitidella* Dup., Painswick Beacon, Glos., VC33, tapped from limestone bank, 18.vi.89. *Mompha subdivisella* Bradley, Worcester City, VC37, in stems of *Epilobium hirsutum* L. on waste ground, x.89.

SKINNER, B. — *Hellula undalis* F., Eastbourne, Sussex, at m.v.l. 23.x.89; third British record.

STERLING, M.J., P.H. AND COL. D.H. — *Phyllonorycter leucographella* Zell., some specimens of the new-to-Britain *Phyllonorycter* introduced by A.M. Emmet in *Entomologist's Rec. J. Var.* **101**: 189–194, bred from mines in *Pyracantha* collected at East Ham, London on 27.iii.89. *Glyphipterix equitella* Scop. Binsley, Oxon VC23, bred from *Sedum acre* L. growing on a wall, collected 5.v.89 *Yponomeuta rorrella* Hübn., part of the 'population explosion' of this usually scarce species; specimens are from Oxfordshire VCs 22 & 23 and Hampshire VCs 11 & 12. *Cataplectica farreni* Wals., Swyncombe Downs, Oxfordshire VC22, bred from *Pastinaca* heads, collected 20.viii.88, from which place caught specimens were exhibited in 1988; there does not appear to be any previous record of this species having been bred in Britain. *Coleophora gardesanella* Toll, from a new Hampshire locality; for other purposes, some *Achillea millefolium* L. roots were dug from the lower part of a cliff at Milford-on-Sea VC11 on 1.i.89; in June, four *Coleophora* larvae were seen feeding and these fixed at the end of June; it was noted that two cases were smaller, much slimmer and fixed at a lower angle (approx. 40° compared with over 60°) — as suspected, these were *C. gardesanella*, whilst the other two were *C. trochilella* Dup. *Cosmopterix lienigiella* L. & Z., Leckford, Hampshire VC12, from mines collected from *Phragmites* on 30.x.88; a new VC record. *Phalonidia gilvicomana* Zell., Swyncombe Downs VC23, bred from seeds of *Mycelis* collected 29.viii.88. *Aethes margaritana* Haw., Sandwich, Kent, bred from heads of *Achillea millefolium* L. collected 19.i.89. *Cochylis flaviciliana* Westw., Fingest, Bucks., bred from *Knautia* heads collected 23.viii.88. *Lobesia botrana* D. & S., two new county records: one from Oxford VC23 on 24.v.89, and one from Winchester VC11 on 9.viii.89. *Cydia medicaginis* Kuznetsov, a specimen collected 2.vii.83 from Grays, Essex was dissected in 1983 and the genitalia seemed to resemble most closely that figured by Pierce & Metcalf for *Cydia succedana* D. & S. The specimen has until now been kept as an unusual

form of this species, but the genitalia diagrams shown in *Entomologist's Gaz.* **40**: 195 now reveal its true identity! *Cydia illutana* H.-S. First bred British specimens, from larch cones collected from trees in Tubney Wood, Oxford VC22 on 6.viii.88. A number of *Cydia* larvae left the cones and entered the rotting wood provided. Most were kept outdoors in a pot covered with netting, but a few were kept in a garage and sprayed weekly. Three moths emerged from those kept inside and none from the outside ones. Continental authors give green cones of *Picea abies* as the main food, but efforts to find larvae in spruce cones in Britain have failed.

WARREN, R.G. — *Monochroa lucidella* Steph., Crymlyn Bog, W. Glamorgan, 23.vi.89. *Anacamptis temerella* Zell., Crymlyn Bog, 23.vi.89. *Ypsolopha lucella* F., Swynnerton, Staffs., 24.viii.89; new to Staffordshire; beaten from an oak. *Ptycholomoides aeriferanus* H.-S., Ashley Heath, Staffs., 10.vii.89. *Lobesia littoralis* H. & W., Trentham, Staffs., 13.ix.89, in m.v. trap. *Bactra robustana* Christ., Pennard Pill, Gower, W. Glamorgan, 20.vi.89. *Epiblema turbidana* Tr., Manifold Valley, Staffs., 25.vi.84. *Pyrausta sanguinalis* L. Wallasey, 9.vii.1935. Probably the last *sanguinalis* to have been seen on the Wallasey sandhills. *Evergestis pallidata* Hufn., Chillington, Staffs, 16.vii.89; new to Staffs.

YOUNG, DR. M.R. — *Elachista albifrontella* Hübn., Isle of Barra, Outer Hebrides. By comparison with typical Scottish specimens the Barra examples have very obscure, 'smudgy' markings on a grey ground colour.

FOREIGN LIPIDOPTERA

CORLEY, M.F.V. — An exhibit of moths taken or bred from the Algarve, Portugal, as a result of a week's collecting from 16–23.iii.89, by day and at night with m.v.light. All species encountered were exhibited with the exception of *Macroglossum stellatarum* L., *Peridroma saucia* Hübn. and *Phlogophora meticulosa* L. The commonest species at the villa in Loulé which was the week's headquarters were *Agrotis puta* Hübn., *Mythimna scirpi* Dup., *Nebula ibericata* Stdgr, *Eupithecia dodoneata* Guen. and *E. cocciferata* Mill.

In many ways late March in the Algarve is comparable with late May in England, but the comparison does not hold very well, as the presence of such species as *Scopula imitaria* Hübn. and *Idaea contiguaria* Hübn. show. They may well be continuous brooded in Portugal.

The climate of the Algarve is much warmer and sunnier than that of England, but even more significant for insect life histories is the almost total absence of a true winter (frosts are almost unknown and mid-winter temperatures can exceed 80°F), and the summer drought (no rain falls in June, July and August).

About half the species seen are on the British list, although some of these are very local in Britain or are scarce immigrants. The Portuguese fauna is poorly known: six of the Macrolepidoptera exhibited are not listed for Portugal by Bustillo & Varela (1981, 1984). They are *Eupithecia dodoneata* Guen., *Epirrhoe sandosaria* H.-S., *Catarhoe cupreata* H.-S., *Horisme scorteata* Studgr, *Dyscia distinctaria* Bang-Haas and *Hadena sancta* Stdgr, though it is possible that the last two have been recorded under different names.

The Microlepidoptera present greater problems of identification, but over three-quarters of those taken are now named with reasonable certainty. There are probably over 20 species new to Portugal among those exhibited, but this is difficult to ascertain, as there is no recent list of Portuguese species.

Of the species reared, most emerged between April and early June, but *Mirificarma mulinella* Zell. and *Metzneria aestivella* Zell. emerged in August and

early September. Larvae of *Stigmelia cistivora* H. Peyer. hatched at the end of September. Larvae of *Coleophora thymi* Her. (not exhibited) were moving about at the time of the Exhibition, having ceased feeding in June. Females of *Heterogynis penella*. Hübn. emerged from cocoons collected on *Calycotome* plants. It was astonishing when larvae appeared without any moths having apparently hatched. On opening a cocoon, it was realized that the wingless females never emerge from their cocoons. No males were seen in the field, or bred, but evidently some of the cocoons collected contained mated females. The males are thinly scaled insects with long genitalia, which enable them to reach the female within.

The full list of species exhibited is as follows: *Micropterix ibericella* Caradja, *Stigmella subervivora* Stt., *S. cistivora* Peyer., *Heterogynis penella* Hübn., *Opostega chalcopiepa* Wals., *Heliozela sericiella* Haw., ?*Proterospastis quadruplella* Caradja, *Monopis crocicapitella* Clem., *M. imella* Hübn., *Trichophaga bipartitella* Rag., *Lyoneia daphneella* Stdgr, *Phyllonorycter endryella* Mann, *Ethmia bipunctella* F., *Chambersia ?augustella* Hübn., *Esperia sulphurella* F., *Depressaria* sp., *Agonopterix* sp., *A. rotundella* Dougl., *Elachista* sp., *E. gormella* Niels. & Tr.-Ulsen, *Polymetis piperatella* Studgr, *Coleophora* sp., *C. trifolii* Curt., *C. subcinerea* Stdgr, *Symmocoides oxybiellus* Mill., *Coccidiphila ledereriella* Zell., *Metzneria aestivella* Zell., *M. castiliella* Möschl., *Eulamprotes helotella* Stdgr, *Pseudotelphusa* sp., *Mirificarma mulinella* Zell., *Scrobipalpa ocellatella* Boyd, *S. phagnalela* Const., *Ephysteris promptella* Stdgr, *Aproaerema anthyllidella* Hübn., *Syncopacma laseniella* Gozm., *Dichomeris limbipunctella* Stdgr, *Zelleria oleastrella* Mill., *Plutella xylostella* L., *Clepsis unicolorana* Dup., *C. siciliana* Rag., *C. consimilana* Hübn., *Lozotaenia cupidinana* Stdgr, *Cnephasia incertana* Treits., *Lobesia botrana* D. & S., *Gypsonoma dealbana* Fröl., *Thiodiodes seeboldi* Rössl., *Cydia succedana* D. & S., *C. splendana* Hübn., *Stenodes straminea* Haw., *S. chamomillana* H.-S., *S. discopunctana* Evers., *S. sparsana* Stdgr, *Eudonia lineola* Curt., *E. angustea* Curt., *Aporodes floralis* Hübn., *Pyrausta sanguinalis* L., *Udea ferrugalis* Hübn., *Nomophila noctuella* D. & S., *Diasemiopsis ramburialis* Dup., *Arnia nervosalis* Guen., *Epischmia illotella* Zell., *Oxybia transversella* Dup., *Acrobasis obliqua* Zell., *Crombruggia distans* Zell., *Marasmarcha lunaedactyla* Haw., *Pterophorus chorodactyla* Stdgr, *Drepana uncinula* Borkh., *Nebula ibericata* Stdgr, *Horisme scorteata* Stdgr, *Eupithecia venosata* F., *E. dodoneata* Guen., *E. cocciferata* Mill., *Gymnoscelis rufifasciata* Haw., *Epirrhoe sandosaria* H.-S., *Rhodometra sacraria* L., *Idaea elongaria* Ramb., *I. obsoletaria* Ramb., *I. contiguaria* Hübn., *I. degeneraria* Hübn., *Scopula imitaria* Hübn., *Catarhoe cupreata* H.-S., *Gnopharmia stevenaria* Boisd., *Rhoptria asperaria* Hübn., *Petrophora narbonea* L., *Pachynemia hippocastanaria* Hübn., *Toulgoetia cauteriata* Stdgr, *Menophra abruptaria* Thunb., *M. japygiaria* Costa, *Peribatodes manuelaria* H.-S., *Adactylotis gesticularia* Hübn., *Aleucis distinctata* H.-S., *Gnophos mucidarius* Hübn., *Aspilates ochrearia* Rossi, *Dyscia distinctaria* Bang-Haas, *Euproctis chrysorrhoea* Linn., *Nola chlamytulalis* Hübn., *Agrotis segetum* D. & S., *A. puta* Hübn., *Hadena sancta* Stdgr, *Mythimna albipuncta* D. & S., *M. unipuncta* Haw., *M. l-album* Linn., *M. scirpi* Dup., *Calophasia almoravida* Graslin, *Recorpha canteneri* Dup., *Spudaea rutilicilla* Esp., *Acronicta psi* L., *Caradrina clavipalpis* Scop., *C. noctivaga* Bell., *Porphyria ostrina* Hübn., *Eutelia adulatrix* Hübn., *Zebebe falsalis* H.-S., *Nycteola columbana* Turn., *Trichoplusia orichalcea* F., *Nodaria nodosalis* H.-S.

CRONIN, MRS N. — A case of butterflies (Rhopalocera) taken at San Pablo, Lugon, Philippines, during June, 1989.

EDWARDS, DR AND MRS P.J. — A collection of moths from in or around L'Escala, Costa Brava, Prov. Gerona, Spain, made mostly during the autumn of 1988 and

spring 1989, of which the most interesting were two *Cucullia argentea* Hufn. This species has been rumoured to be in the Province of Gerona in recent years, but these two confirm its presence in Spain. Although there are a few scattered records from France, this species is better known from central and eastern Europe; *Calophasia hamifera* Stdgr, a new record for Gerona; *Catephia alchymista* D. & S. compared with the smaller but similar *Aedes leucomelas* L.; and a selection of Noctuidae that are uncommon migrants to the British Isles.

GOATER, B. — (a) Geometridae and Noctuidae from the Sierra de Gredos, Avila, 1720 m. and Sierra de Guadarrama, Madrid, 2200 m. taken in July 1989. These two high sierras in west-central Spain have similar, but not identical faunas including a number of endemic species and subspecies. The exhibit included *Kemtroglyphos predotae* Schaw. and *Costignophos avilarius* Reiss., both endemic; *Euxoa haverkampfi continentalis* Reiss., endemic and probably specifically distinct from *E. haverkampfi* Stndfs from Corsica; *Standfussiana dalmata occidentalis* Brsn and a dark form of *S. lucerneae* L.; *Rhyacia cervantes* Reiss. with *R. grisea* F. from the Alps and Spanish Pyrenees for comparison; *Diarsia guadarramensis* Boursin with *D. mendica* F. from France and England for comparison; *Hada nana gredensis* Schaw. and *H. proxima nevadensis* Reiss. with specimens of the nominotypical races from France for comparison; *Cryphia ravula erepriculoides*, the form from Gredos being particularly large and richly marked, with typical *C. ravula* from S. France for comparison; *Apamea platinea splendida* Reiss., with *A. platinea* from the Alps and Spanish Pyrenees for comparison; and *Oligia fasciuncula hispanica* Lempke, very robust and well-marked compared to specimens from France and England.

(b) Noctuidae from Spain and Portugal taken during 1989, including *Ogygia forcipula guedellanae* Oberth. compared with *O. forcipula forcipula* D. & S. from S. France; *Ochropleura candelisequa zapateri* Schwing. compared with nominotypical *O. candelisequa* D. & S. from S.E. France, *Ochropleura leucogaster* Freyer from Spain and Portugal, compared with *O. plecta unimacula* Stdgr from N. Spain and *O. plecta plecta* L. from France and England; a variable series of *Eugnorisma arenoflavida* Schaw. from Albarracin, Teruel, compared to the more robust and comparatively invariable *E. depuncta* L. from Scotland and S. France; *Chersotis andreae* Dufay, *C. fimbriola iberica* Zerny from central Spain compared with a larger and much more heavily marked form from the Sierra de Gredos; *Noctua interposita* Hübn. and *N. orbona* Hufn., both from N. Spain; a short series of *Mythimna joannisi arbia* Brsn & Rungs taken on the coast Valencia in early April; *M. punctosa* Treits. from los Monegros, Huesca and the French coast near Perpignan, compared to the very dark form of *M. putrescens* Hübn. that occurs on los Monegros; *Omphalophana serrata* Treits., found commonly on some sandhills near Lagos, Portugal, in late March, and *Cleonymia baetica* Ramb. and *Amephana aurita* F. from los Monegros in May; *Dicycla oo* L. f. *sulphurea* Stdgr, a form apparently not uncommon in Spain, compared with some very dark ab. *renago* Haw. from S. France taken at the end of May, and a selection of English specimens.

(c) A drawer of Crambinae from Britain, France and the Iberian Peninsula; 55 species were shown, out of a total of about one hundred reported for the area, including several *Euchromius gozmanyi* Bles. from the French coast near Perpignan (genitalia det.). This species does not figure in Leraut's checklist of Lepidoptera, but there is a specimen in Brit. Mus. (Nat. Hist.) taken at Cavalaire, Var, in 1964 by S.N.A. Jacobs.

HALL, N. — (a) Some interesting species recently bred from France and Spain: *Campaea honoraria* D. & S. Like its British congener, the larva has a third pair of abdominal claspers. It feeds on oak (*Quercus* spp.); *Graellsia isabellae* Graells. two

females bred from small larvae from Spain given the exhibitor by Snr Josep Ylla i Ullastre, shown with a wild-caught male for comparison; *Arctornis l-nigrum* O.F. Müll. Having read that it was difficult to get hibernated larvae of this species to resume feeding, it was decided to bring four of them into the warm as soon as their foodplant (lime) had begun sprouting: they wandered about but ate nothing. They were sprayed with water in the belief that they were at risk through dehydration, but all died. After a further month, the remaining larvae were brought in from the plastic boxes in the garden shed where they had spent the winter, disturbed, and placed on the foodplant. They either began feeding spontaneously or reattached themselves to the sides of the container and became motionless. The reluctant larvae were refrigerated for two days, removed and disturbed again. After one or more of these treatments all larvae commenced feeding and were reared without trouble. They were not sprayed. It had been feared the larvae would not survive hibernation because of the exceptional mildness of the winter; however, the captive larvae completed more instars in the autumn than they do in the wild, and this probably increased their chance of survival; *Archanara geminipuncta* Haw. Large specimens bred from a coastal reedbed in the Pyrenees Orientales, from stems showing the classic signs of the presence of this species; *Brithys crini pancratii* Cyrillo. Bred from larvae found in great abundance on *Pancratium maritimum* on the Mediterranean coast of France; *Tephronia sepiaria* Hufn. A female caught in Spain in June 1988 laid eggs which hatched at the end of the month. The larvae were fed on lichens scraped from a wall; they aestivated, eating practically nothing, and then fed up slowly from late autumn. By the end of July 1989, 13 months later, only two remained alive. Although fully grown, they were only 11 mm long and still difficult to find because of their excellent camouflage. Both eventually pupated among the lichen, and produced a male and a female moth; *Pechipogo plumigeralis* Hübn. A hypenid with spectacular fanned feet; bred from a gravid female taken in the Gard, France. The larvae fed on bramble, oak and dock, preferring withered leaves; *Gortyna xanthenes* Germ. This is a pest species in southern Europe, feeding on globe artichokes. Larvae were extracted from the bases of artichoke stems in early June 1989, and reared successfully in carrots. Pyrenees Orientales.

(b) A selection of other interesting species taken in France during 1989 including *Phragmataecia castanaeae* Hübn., Pyr. Orient.; *Heterogenea asella* D. & S., Loir-et-Cher; *Adscita globulariae* Hübn., Aude, taken at light; *Sclerocona acutellus* Eversm., Hérault & Pyr. Orient.; *Costaconvexa polygrammata* Borkh., Hérault; *Siona lineata* Scop., Ardèche; *Laelia coenosa* Hübn., male, Hérault; *Pelosia obtusa* H.-S., including females, Loir-et-Cher; *Spiris striata* L., a large form, Hérault; *Coscinia cribraria* Linn., Lot; *Spilosoma urticae* Esp., Hérault; *Simyra albovenosa* Goeze, Pyr. Orient.; *Acronicta leporina* L., the pure white Continental form, Loir-et-Cher; *A. euphorbiae* D. & S., Lot; *Actinotia polyodon* Clerck, Lot; *Dicyla oo* L., Hérault & Ardèche, flying at the end of May; *Eublemma ostrina* Hübn., Gard; *Eustrotia uncula* Clerck, Loire Atl.; *Deltote bankiana* F., Loir-et-Cher; *Colobochyla salicis* D. & S., Loir-et-Cher; *Trisateles emortualis* D. & S., Loir-et-Cher.

HARMAN, T.W. — (a) A new species of the Genus *Eurypteryx* (Sphingidae) taken in Khoa Yai National Park, Thailand, 9.iv.88. This unique male is being described and will be called *Eurypteryx geoffreyi* Cad. & Harman in memory of Geoffrey Allen. Geoffrey, who died on the same day as this moth was captured, was the father of Col. M.G. Allen, organizer of the expedition.

(b) A selection of Lepidoptera taken during a faunal survey near Les Eyzies, Dordogne, France, 22–31.viii.89, including a series of *Arethusana arethusana* D. & S., showing range of colour and markings.

HOLLINGWORTH, DR T.S. — A general exhibit of Lepidoptera collected from parts of southern France, mainly on the Atlantic coast and in the foothills of the Pyrenees. Particular emphasis was given to the Pyralidae, but many other families were represented; about one-third of the species shown are not recorded from the British Isles, and a further third are relatively uncommon in Britain. Among the Macrolepidoptera, the most interesting species was *Adalbertia castiliaria* Stdr., two males and a female, of which there seems to be only one previous record for France, though it is common in pinewoods in northern Spain. The list of Microlepidoptera is given in full: *Ochsenheimeria hederarum* Mill., *Ethmia pusiella* L., *Dafa formosella* D. & S., *Harpia forficella* Scop., *Coleophora leucapennella* Hübn., *Oegoconia caradjai* Popescue-Gorj & Capus, *Cosmopterix orichalcea* Stt., *Eulamprotes wilkella* L., *Syncopacma taeniolella* Zell., *Brachmia triannulella* H.-S., *Yponomeuta rorrella* Hübn., *Kessleria egregiella* Dup., *Argyrotaenia pulchellana* Haw., *Choristoneura hebenstreitella* Müll., *Eana penziana* Clerck, *Lobesia botrana* D. & S., *Rhyacionia buoliana* D. & S., *R. pinicolana* Doubl., *Echromius bella* Hübn., *Chrysocrambus craterella* Scop., *Pediasia fascelinella* Hübn., *Platytes alpinella* Hübn., *Ancylolomia tentaculella* Hübn., *Eudonia pallida* Curt., *Evergestis limbata* L., *Pyrausta castalis* Triets., *P. cespitalis* D. & S., *Margarita sticticalis* L., *Uresiphita limbalis* D. & S., *Sitochroa palealis* D. & S., *Ostrinia nubilalis* Hübn., *Anania verbascalis* D. & S., *Mutuaia terrealis* Treits., *Opsibotys fuscalis* D. & S., *Diasemia reticularis* L., *Diasemiopsis ramburialis* Dup., *Synaphe punctalis* F., *Actenia brunnealis* Treits., *Pyralis farinalis* L., *Aglossa caprealis* Hübn., *Pyla fusca* Haw., *Phycita roborella* D. & S., *Oncocera semirubella* Scop., *Pempelia palumbella* D. & S., *P. genistella* Dup., *Dioryctria* spp., *Microthrix fallax* Stdr., *Nephopterix angustella* Hübn., *Acrobasis tumidana* D. & S., *A. repandana* F., *A. consociella* Hübn., *A. porphyrella* Dup., *Numonia marmorea* Haw., *N. advenella* Zinck., *Apomyelois bistriatella* Hulst., *Euzophora fuliginosella* Hübn., *Nyctegretis lineana* Scop., *Plodia interpunctella* Hübn., *Phycitoides sacicola* Vaugh.

MACNAMARA, D.S.K. — (a) Two typical examples of *Brahmaea wallichii insulata* Inoue (the Taiwanese owl moth), and the following aberrant forms: three ginger-coloured, one charcoal-coloured. These forms are possibly new, and have not been named.

(b) Three typical examples of *Brahmaea wallichii japonica* Butl. (the Japanese owl moth), one typical *B. wallichii insulata* and one hybrid *japonica* male x *insulata* female, possibly the first time that this hybridization has been achieved.

ORAM, D.A. — Some moths taken in the Falkland Islands during March–April 1989; collecting was concentrated in two main regions, Carcass Is. in the northern part of the archipelego, and around Stanley in the south-east part of East Falkland. Two species of Lepidoptera new to the Falklands are believed to have been discovered.

From Stanley: *Tinea pallescentella* Stt. (Tineidae) and *Agrotis hispidula* (Guen., *Caphornia xanthostola* Mab. and *C. ochricraspia* Hamps. (Noctuidae).

From Carcass Island: six specimens of an as yet unidentified species of Geometridae, probably Larentiinae, and *Agrotis hispidula* and *Pseudo-leucania tephra* Köhler (Noctuidae), the latter also new to the archipelego.

PITTIS, REV. S.C. — A striking striated underside female of *Palaeochrysophanus hippothoe eurydame* Hoffmannsegg captured on a school trip to Austria in 1969. It had been placed meanwhile in a store box and forgotten about!

SIMMONS, M.J. — Some moths taken during a two-week stay in Poland, between 25.vi and 8.vii.89. (a) Czerlonka, Puszcza Bialowieza: with the exception of the *Zygaena* and *Synanthedon*, these moths were taken at lights outside the railway

station in Czerlonka or at a 100W bulb outside one of the village houses. The days were hot, but at night the temperature dropped under a clear sky, and conditions were more like an English October or November; even so, an interesting variety of species was seen: *Zygaena osterodensis* Reiss. (= *scabiosae* auctt.), *Synanthedon spheciformis* D. & S., *S. flaviventris* Stdgr., *Geometra papilionaria* Linn., *Comibaena bajularia* D. & S., *Scopula immorata* L., *Pelurga comitata* L., *Thyatira batis* L., *Philudoria potatoria* L., *Euproctis similis* Fuessl., *Leucoma salicis* L., *Spilosoma urticae* Esp., *Mythimna conigera* D. & S., *Cerapteryx graminis* L., *Hada nana* Hufn., *Lygephila viciae* Hübn., *Parascotia fuliginaria* L.

(b) Janow Lubelski, Puszcza Solska. All moths taken at m.v. light at a farmhouse on the edge of the forest, about 3 km from Janow Lubelski. Here, the nights were overcast and much warmer. Species taken were *Plemyria rubiginata* D. & S., *Semiothisa notata* L., *Abraxas sylvata* Scop., *Angerona prunaria* L., *Biston betularia* L., *Arichanna melanaria* L., *Philudoria potatoria* L., *Dendrolimus pini* L., *Habrosyne pyritoides* Hufn., *Thyatira batis* L., *Hyloicus pinastri* L., *Deilephila elpenor* L., *Pheosia tremula* Clerck, *Euproctis similis* Fuessl., *Eilema lurideola* Zinck., *Lithosia quadra* L., *Diacrisia sannio* L., *Ceramica pisi* L., *Mythimna turca* L., *M. conigera* D. & S., *Apamea monoglypha* Hufn., *Panthea coenobita* Esp., *Trachea atriplicis* L., *Calloplistria juventina* Stoll., *Plusia putnami gracilis* Lempke, *Cosmia pyralina* D. & S.

(c) Susiec, Puszcza Solska, taken by day in a rough, uncultivated meadow: *Zygaena diaphana* Guhn., *Soiris striata* L., *Emmelia trabealis* Scop. and two unidentified *Adscita* spp.

(d) Hutki, near Puszcza Solska: *Callimorpha dominula* L.

TREMBATH, D.A. — A selection of Rhopalocera collected in Kenya between December 1987 and January 1989, including the following species of particular interest: *Papilio lormieri* Dist., subsp. *crocea* Storace from W. Kenya with narrow median band; *P. interjecta* van Som., now separated from *P. bromius* Doubl.; *Colias phisadia* Godart, two subspecies, one from N. Kenya, one from the Coast; *Belenois thysa* Hopff., a lovely female form; *Pseudacraea eurytus* L., various male forms showing ability for mimicry; *Acraea cineraria* Neave, found in swarms numbering millions in Dec. 88; few were seen in Dec. '87, and none before in several December visits; *A. penelope* Stdgr, a yellow female form *exalbescens* Etringham; *A. peneleos* Ward, similar to the above but much rarer in Kenya; *A. rogersi* Hew., a rare species in which very few females are known; and *A. chilo* Godm. subsp. *magnifica* Carpenter & Jackson, only known from Mt. Kulal area in northern Kenya: these specimens were taken on the adjacent Mt. Nyiro; a selection of *Neptis* spp., with a brief description of differentiating features of part of the group; the very rare *N. nicobule* Holland was included in the exhibit; *Epamera trajorca* Walker, north Kenya; *Tarucus rosaceus* Austaut and *T. kulala* Evans, found flying together in the Mt. Kulal area.

The only known specimen of *Chloroselas trembathi* sp. nov., holotype female, about to be described by Collins & Larsen.

WAITE, P. — (a) *Pseudochazara geyeri occidentalis* Rebel & Zerny: four specimens, showing males, female and underside. This species is thought to occur in Europe only in parts of Albania and Yugoslavian Macedonia, on Mt. Galicica, above Lake Ochrid; these specimens were taken on 3.viii.89, at 1400 m.

(b) *Spiris striata* L.: one typical specimen and two with black hindwings, f. *melanoptera* Brahm. This form was not uncommon among a large colony of the species flying by day on the southern slopes of Mt. Galicica, at 1850 m, in late July 1989.

WARING, P. — A collection of moths recorded in northern Spain between 25.viii. & 5.ix.89. Of particular interest were *Mythimna unipuncta* Haw., which was common on the Spanish coast, *Alcis jubata* Thunb., found in lichen-covered beechwoods where no oak was present, and *Orgyia aurolimbata* Guen., males of which were flying by day on open mountain slopes at over 1600 m. Other species, sometimes recorded as migrants in Britain, included *Rhodometra sacraria* L., *Agrotis crassa* Hübn., *Mythimna vitellina* Hübn., *M. albipuncta* D. & S., *Trachea atriplicis* L., and *Dysgonia algira* L.

DIPTERA

Eleven exhibitors contributed to the display of Diptera this year, a reduced number from 1988 but a wide range of interesting specimens were included. Eight species new to the British List were the highlight of the day including two Syrphidae and two Stratiomyidae, both species of *Oxycera* of which single examples were discovered by Alan Stubbs at previously unworked spring sites, one of which also produced a distinctive crane fly previously known only from Spain. Pipunculidae and Sciomyzidae featured in several exhibits, and a new find of *Antichaeta obliuosa* (End.), only recently added to the British list by Jonathan Cole, was exhibited by Steven Falk. As usual Syrphidae predominated but Conopidae and Tephritidae also added to the diversity of the exhibits.

ALEXANDER, K.N.A. AND GROVE, S.J. — Selected flies found during National Trust biological survey fieldwork in Cornwall (both exhibitors) and West Sussex (S.J.G. only) in 1989. Seven species from Cornwall and three from Sussex were new county records. Notable species exhibited were — Cornwall: *Ctenophora pectinicornis* (L.) (Tipulidae) reared from a pupa found in a rot hole of an old holly in Pengweden Wood, Helford, 29.vi.; *Dolichopus signifer* Hal. (Dolichopodidae), both sexes from a cliff seepage, Cudden Point, 18.v.; *Brachyopa insensilis* Collin, hovering round beech buttress in Higher Hill Wood, Trencrom, 20.v.; *Eumerus sabulonum* (Fall.) from mown path through bracken on Gribbin Head, 29.vi. (only record from south coast in Cornwall); *Cryptaciura rotundiventris* (Fall.) and *Urophora spoliata* (Hal.) (Tephritidae), swept from grass heath on Pentargon Cliff, Boscastle, 12.vii. Sussex: *Acanthiophilus helianthi* (Rossi), Beeding Hill, 1.viii.; *Gymnosoma rotundatum* (L.) on umbel, Steer's Common, 24.vii.

CHANDLER, P.J. — Some fungus gnats with spore-feeding larvae which spin webs on bracket and encrusting fungi and produce cocoons, in which adult development takes place, on or near the substrate. Reared examples of three species of *Keroplatus* (Keroplastidae) and two species of *Sciophila* (Mycetophilidae) were exhibited. *Keroplatus testaceus* Dalman is the only British species of its genus but three other species occur in northern France (two of these, *K. tipuloides* Bosc and *K. reaumurii* Duf., reared in 1989 from larvae collected in France were exhibited). *K. tipuloides* and *Sciophila rufa* Meig. are both specific to *Fomes fomentarius*; they occur together in France where the fungus grows on beech (as it does locally in southern England); *S. rufa* is found here only in Scotland, where the fungus grows on birch. The closely related *S. ochracea* Walk. is little known but seems specific to *Phellinus pomaceus* so occurs in orchards and gardens where the fungus grows on plum and other rosaceous trees; specimens reared by E.P. Wiltshire from larvae found in his garden at Cookham, Berks in v.1988 were exhibited.

FALK, S.J. — In addition to interesting exhibits of various Diptera collected on visits to Nepal and Cyprus, 42 species collected in recent years in Britain were also exhibited. Notable finds among these were: *Odontomyia angulata* (Panz.)

(Stratiomyidae), East Walton Common, Norfolk, 6.vii.89; *Xanthandrus comtus* (Harr.) (Syrphidae), Brownsham, N. Devon, 17.vi.89; *Platycheirus sticticus* (Meig.) (Syrphidae), Ballater, South Aberdeen, 1.vi.86; *Cheilosia chrysocoma* (Meig.) (Syrphidae), Castor Hanglands N.N.R., Northants, 30.iv.89; *Eumerus sabulorum* (Fall.) (Syrphidae), Welcombe Mouth, N. Devon, 16.vi.89 and Morwenstow, E. Cornwall, 16.vi.89; *Brachypalpus laphriformis* (Fall.) (Syrphidae), Pillaton, E. Cornwall, 3.vi.89; *Myopa fasciata* Meig. (Conopidae), Pirbright Common, Surrey, 13.viii.89 with *Andrena fuscipes* (Kirby); *Antichaeta analis* (Meig.) (Sciomyzidae), Laugharne Burrows, Carmes., 18.vii.88; *A. obliuosa* (End.) (Sciomyzidae), Woodwalton Fen, Cambs., 28.v.85; *Nanna brevifrons* (Zett.) (Scathophagidae), Fearchar Burn, S. Aberdeen, 1.vi.86 and Ballater, S. Aberdeen, 31.v.86.

HALSTEAD, A.J. — Eight species of Diptera collected in 1989, including *Stratiomys singularior* (Harr.) (Stratiomyidae), at *Heracleum* flowers, Braunton Burrows, N. Devon, 13.vi.; *Nephrocerus flavicornis* Zett. (Pipunculidae), swept from oak, R.H.S. Garden, Wisley, Surrey, 1.vi.; *Myopa fasciata* Meig. (Conopidae), on *Cirsium arvense* L. flowers, 29.vii., Horsell Common, Woking, Surrey.

HOLLIER, J.A. AND BELSHAW, R.D. — A selection of Syrphidae, Pipunculidae and Conopidae collected using malaise traps during 1989, in four plots of different successional age at Silwood Park, Berks, set up for the collection of Tachinidae. These included *Caliprobola speciosa* (Rossi) (Syrphidae), 20–22.v.; *Mallota cimbiciformis* (Fall.) (Syrphidae), 17–20.vi.; *Volucella inflata* (F.) (Syrphidae), 26–30.v.; *Nephrocerus flavicornis* Zett. (Pipunculidae), 17–20.vi.; *N. scutellatus* (Macq.) (Pipunculidae), 20–22.v.89, the third British record of the latter; *Myopa testacea* (L.), 5–12.v.

MCLEAN, I.F.G. — Five species of Sciomyzidae from Thompson Common, Norfolk, 8.vii.89: *Pherbellia nana* (Fall.), *P. argyra* Verbeke, *Tetanocera freyi* Stackelberg, *Psacadina zernyi* Mayer and *Dichetophora obliterata* (F.)

MORRIS, R. — Maps showing some of the trends emerging from the Surrey Hoverfly Scheme were displayed. Forty-four species of the more notable Diptera found by the exhibitor in Surrey were also exhibited, all Syrphidae except *Chetostoma curvinerve* Rond. (Tephritidae), White Beech, 3.iv.88 and *Oxycera rara* (Scop.) (Stratiomyidae), Tuesley, 15.vii.89. Other species shown included the following: *Epistrophe melanostoma*, new to Britain from Banstead Downs, 15.v.88; *E. diaphana* (Zett.), Bay Pond, Godstone, 6.vii.88 and Upper Gatton, 18.vi.88; *Epistrophella euchroma* (Kow.), Ashted Common, 21.iv.87; *Melangyna quadrimaculata* (Verr.), Wotton Woods, 3.iv.88; *M. guttata* (Fall.), Coxes Lock, 5.vii.87 and Gomshall, 13.vii.86; *M. triangulifera* (Zett.), Ashted Common, 26.iv.87 and Cooper's Hill, 14.v.88; *Brachyopa insensilis* Collin, Morden Park, 21.v.89; *B. pilosa* Collin, Limsfield Chart, 1.vi.88; *Pelecocera tricincta* Meig., Chobham Common, 27.vi.87; *Myolepta luteola* (Gmel.), Upper Gatton, 2.viii.87 and Merrow Common, 5.vii.87; *Volucella inflata* (F.), White Beech, 19.vi.88 and Hackhurst Down, 21.vi.86; *Brachypalpus laphriformis* (Fall.), Box Hill, 27.v. and 13.vi.86 and Bealeswood Common, 9.v.87; *Microdon devius* (L.), White Down, 15.vi.87; *M. eggeri* Mik, Spur Hill, 9.vii.86; *M. mutabilis* (L.), Wisley Common, 15.vi.86.

PERRY, I. — Twelve species of uncommon Diptera found during 1989: *Pamponerus germanicus* (L.) (Asilidae), from fixed dunes and pine woodland at Morfa Harlech, Gwynedd, 19–21.v.; *Eriozone syrphoides* (Fall.) (Syrphidae), two females on flowers of *Hypochoeris radicata* L., Coed y Brenin Forest, Gwynedd, 23.viii.; *Meligramma guttata* (Fall.) (Syrphidae), female at *Oenanthe crocata* flowers, Buck's Mills, Devon, 15.vi.; *Sphaerophoria potentillae* Claussen (Syrphidae), male

from wet heath at Common Moor, East Putford, Devon, 11.vi.; *Chrysotoxum elegans* Loew (Syrphidae), The Tidna, Cornwall, 16.vi., males on *Rubus* flowers; *Triglyphus primus* Loew (Syrphidae), female and both sexes of *Cheilosia barbata* Loew (Syrphidae) at *Torilis japonica* flowers, edge of pine forest at King's Forest, Suffolk, 29.vii.; *Cheilosia chrysocoma* (Meig.) (Syrphidae), both sexes on hawthorn at edge of dune slack at Morfa Harlech, Gwynedd, 21.v.; *Xylota coeruleiventris* Zett. (Syrphidae), first East Anglian record from an area of mature Corsican pine, King's Forest, Suffolk, 27.v.; *Conops strigatus* Wied. (Conopidae), males on flowers of an exotic *Solidago* species, West Stow, Suffolk, 29.vii.; *Tanypeza longinana* Fall. (Tanypezidae) male on sycamore leaf in pine forest at King's Forest, Suffolk, 19.vii., close to site where second British example was collected in 1913; *Ectinocera borealis* (Zett.) (Sciomyzidae), Brownsham, Devon, female swept from edge of wooded stream, 15.vi.

STUBBS, A.E. — (a) Seven species new to the British List: *Limonia nigristigma* (Tipulidae), both sexes from Ashberry Pastures, Helmsley, N.W. Yorks., 25.viii.89, calcareous seepages, also recently recognized in collections from the Cheviots and Herefordshire; *Helius hispanicus* Lack. (Tipulidae), a male from a coastal landslip at Haven Cliff in the Axmouth-Lyme Regis N.N.R., Devon, 19.vi.89, only previously known from Spain; *Oxycera varipes* Loew (Stratiomyidae), a male also from Haven Cliff, a scarce mainly upland species in western Europe; *O. leonina* (Panz.) (Stratiomyidae), a female from East Walton, W. Norfolk, by a spring-fed calcareous stream, 6.vii.89, widespread in temperate Europe; *Sphaerophoria potentillae* Claussen (Syrphidae), also exhibited by I. Perry (q.v.), same data, only recorded before from N.W. Germany; *Cephalops chlorionae* (Frey) (Pipunculidae), a male from Boscombe, Dorset, *Phragmites* seepages on coastal cliffs, 24.vi.89, only previously known from four sites in Fenno-Scandinavia; *Dorylomorpha haemorrhoidalis* (Zett.) (Pipunculidae), a male from Blackpool Moss, Whitlaw Mosses N.N.R., Selkirk, 15.vii.88, the first true British example, previous records under this name referring to *D. hungarica* Aczél.

(b) a pair of *Didea alneti* (Fall.) (Syrphidae), collected by E. Simpson in Durham, very few have been seen in recent years.

(c) Nine other little known species: *Odontomyia angulata* (Panz.) (Stratiomyidae), female from East Walton, W. Norfolk, 6.vii.89, a pingo habitat likely; *Hybomitra muehlfeldi* (Brauer) (Tabanidae), female with same data as last, proving widespread in Norfolk; *Dioctria cothurnata* (Meig. (Asilidae), both sexes from Mapperton, Dorset, 21.vi.89, females with paler leg colouration than males are easily confused with *D. rufipes* (Deg.); *Syneches muscarius* (F.) (Empididae), both sexes from Winnall Moor, Hants., 25.vi.89, by ditches on grazing fields in the Itchen Valley, first record outside Dorset (where known from only two recent sites); *Neocnemodon brevidens* (Egger) (Syrphidae), a male from Denford, Berks. in valley fen, 13.vii.89, new county and first summer record; *Beckerias pannonicus* (Aczél) (Pipunculidae), male from same locality as *Syneches* above, this is on the British list as *Cephalops curtifrons* Coe, which is a synonym; *Sicus abdominalis* Kröber (Conopidae), males from Wicken Fen, Cambs., 8.vii.89 and Chobham Common, Surrey, 2.xi.1962 (exhibited with the common *S. ferrugineus* (L.) and another problem specimen from valley fen at Eddington, Berks., 10.vii.89; further study of this genus in Britain is necessary); *Cryptaciura rotundiventris* (Fall.) (Tephritidae), female from valley fen at Denford, Berks., 11.vii.89; *Cordilura aemula* Collin (Scathophagidae), male from East Walton, Norfolk, 6.vii.89.

COLEOPTERA

There were 16 beetle exhibits this year. They ranged from a single rather battered burying beetle with its accompanying mites exhibited by Mr Harley to the extensive array of specimens, larval skins and photographs shown by Professor Owen. Despite the large number of species shown by Mr Drane, he had solved all his transport problems by exhibiting them in a small transparent plastic box measuring not much larger than 8 by 6 inches! Nevertheless, they were all beautifully mounted, and mounted beneath the transparent lid within range of a hand lens. The Annual Exhibition is such an important forum for publishing Coleoptera records, that the following report is produced in its entirety. Exhibitors have, as usual, provided excellent and interesting data.

ALEXANDER, K.N.A. AND GROVE, S.J. — Mostly Cornish beetles found during the National Trust Biological Survey 1989 visit, with a few from private land. Those believed to be new to Cornwall are indicated by an asterisk. **Deleaster dichrous* (Grav.) frequent under stones on River Camel sandbank in Colquite Wood, 24.vi.89. *Trachys troglodytes* Gyll., widespread in W. Cornwall, this specimen on Devil's-bit scabious foliage, Kynance Cliff, 29.v.89. **Selatosomus bipustulatus* v. *tenebricans* du Buyss., the all black form, from spiderweb on old oak by River Fowey, Lanhydrock, 27.vi.89. *Malthodes guttifer* Kiesenw., swept in Dizzard Oakwood, 13.vii.89. **Rhizophagus nitidulus* (F.), in dead birch, Camerance Wood, Fal Estuary, 8.vi.89, and in dead oak, Ethy Wood, Lerryn, 14.vii.89. *Hyperaspis pseudopustulata* Muls., two beneath vegetation mats over rock outcrops, Beagles Point, Lizard, 28.v.89. *Halyzia sedecimguttata* (L.), found in three woods in east, this specimen from Cadsonbury, 22.vi.89. *Melandrya caraboides* (L.), from dead beech, Boconnoc Park, 24.vi.89. *Strangalia aurulenta* (F.), two on the wing, Boconnoc Park, same date. *Phyllobrotica quadrimaculata* (L.), numerous on skullcap in wet flush, Boconnoc Park, same date. *Calomicrus circumfusus* (Marsh.), swept from coastal heathland at Cambeak, Crackington Haven, 11.vii.89. *Cassida murraea* L., seen at three localities, this specimen from seacliff flush at Lower Predannack Cliff, Lizard, 14.vi.89. **Apion fuscirostre* (F.), from broom on cliffs at Crackington Haven, 11.vii.89. *Larinus planus* Germ., swept from flushed cliffland at Porthmeor, Zennor, 17.v.89 and elsewhere. *Mesites tardii* (Curt.), from dead oak in Trelissick Woods, 12.vi.89, and dead beech in Ethy Wood, Lerryn, 27.vi.89. *Smicronyx jungermanniae* (Reich), from dodder on western gorse at Lizard Point, 15.vi.89.

Material from other parts of Britain. *Phloiотrya vaudoueri* Muls., from dead oak near Cannop Ponds, Forest of Dean, new to W. Glos., 15.vii.89. *Zilora ferruginea* (Payk.), reared from pupa found in rotting pine, Abernethy, 6.viii.89. *Magdalis duplicata* Germ., beaten from pine foliage near Loch Alvie, 6.viii.89, both in Inverness-shire.

COLLIER, M.J. — Notable coleoptera records from Norfolk during 1988 and 1989. *Harpalus vernalis* (Duft.) Stanford, 8.v.88. *Cercyon laminatus* Sharp, Cranwich, 9.ix.89, first Norfolk record. *Nossidium pilosellum* (Marsh.), Wayland Wood, 16.vii.89, first Norfolk record since 1882. *Leiodes triepkii* (Schm.), Thetford, 3.viii.88, first Norfolk record since 1891. *Catopidius depressus* (Murr.), Stanford, 24.vii.88, first Norfolk record. *Colon appendiculatum* (Sahl.), West Harling Common, 25.v.88. *Neuraphes praeteritus* Rye, Grime's Graves, 11.vii.89, first Norfolk record. *Scydmorephes helvolus* (Schaum.), Stanford, 2.iv.88. *Bledius filipes* Sharp., Cromer, 29.v.88. *Rugilis fragilis* (Graven.), Woodbastwick, 22.i.89 and Foulden, 12.iii.89, first record for West Norfolk. *Philonthus corvinus* Er., Stanford, 30.iv.89, first Norfolk record. *Bibloporus minutus* Raff., Great Hockham, 15.v.88, first Norfolk record. *Aphodius villosus* (Gyll.), Grime's Graves, 11.vii.89.

Onthophagus nuchicornis (L.), Stanford, 14.vi.88, first positive Norfolk record. *Cyphon pubescens* (F.), Stanford, 2.iv.88. *Epiphanus cornutus* Esch., Greak Hockham, 20.iii.88, first Norfolk and fifth British county record. *Laricobius erichsoni* Rosen., Stanford, 27.iii.89, first Norfolk record. *Ernobius pini* (Sturm), Thetford, 18.iv.88, second Norfolk record. *Anitys rubens* (Hoff.), Stanford, 2.iv.88, first Norfolk record. *Atomaria lohse* Johns. and Strand, Thetford, 18.vi.88. *A. pulchra* Er., Stanford, 14.vi.88, first Norfolk record. *Platynaspis luteorubra* (Goeze), Stanford, 14.vi.88, first modern Norfolk record. *Corticaria alleni* Johns., Stanford, 2.iv.88, first Norfolk record. *Oncomera femorata* (F.), East Harling, 13.x.89, only modern Norfolk record. *Mantura chrysanthemi* (Koch), Stanford, 27.iii.88, first Norfolk record since 1906. *Chaetocnema arida* Foud., Stanford, 24.iv.88, first Norfolk record. *Ceutorhynchus pumilio* (Gull.), Thetford, 18.vi.88. *Tychius parallelus* (Panz.), Santon Downham, 21.v.89, first modern Norfolk record. *T. quinquepunctatus* (L.), Thetford, 18.vi.88, first modern Norfolk record. *Gymnetron beccabungae* (L.), Thompson Common, 19.ix.88, first Norfolk record.

COPESTAKE, D.R. — *Bagous linosus* (Gyll.), New Forest, 8.vi.88. *Henoticus serratus* (Gyll.), Wychwood Forest, 2.vii.89. *Aphthona herbigrada* (Curt.) *Apteropeda globosa* (Ill.), and *Gymnetron melanarium* (Germ.), from Swyncombe Downs, Oxon., 22.v.89. *Apion sedi* Germ., and *Anisoxya fuscata* (Ill.), from Merthyr Mawr Warren, Glam., vi.89. *Ceuthorrhynchidius thalhameri* Schultz, Ogmores by Sea, Glam., vi.89. *Ceutorrhynchus mixtus* M. & R., Stockgrove Country Park, Beds., 20.vi.89. *Lebia chlorocephala* Hoffman., near Waterperry Wood, Oxon., 21.ii.88. *Dryophthorus corticalis* (Schall.), 27.xii.88, *Teredus cylindricolis* (Ol.), 13.vi.88, *Graminoptera ustulata* (Schall.), 23.v.88 and *Ampedus cardinalis* (Schiodte) 10.iii.88, all from Windsor.

CRONIN, A.R. — A single stag beetle, *Lucanus cervus* (L.), found clinging to a lime tree, Shoreham, Sussex, vi.87.

DRANE, A.B. — *Bembidion pallidipenne* (Ill.), on sand, Midhurst Common, Sussex, 2.vi.89. *Tachys bistriatus* (Duft.), grubbing, Luccombe Chine undercliff. I.o.W., 6.v.89. *T. micros* (Waldh.), on mud, Eype Cliffs, Dorset, 4.vi.89. *T. scutellaris* Steph., under stone, Salthouse, Norfolk, 16.iv.89. *Pogonus luridipennis* (Steph.), under stone, Salthouse, Norfolk, 16.iv.89. *Drypta dentata* (Rossi), grubbing, White Cliff Bay, I.o.W., 31.v.87. *Actidium aterinum* (Mots.), river shingle, Doddington Bridge, Northumb., 4.vii.88. *Leiodes picea* (Panz.), under stone, Dorbach Burn, Inv., 27.vii.87. *Euconnus pragensis* (Machulka), red rot oak, Windsor, 29.xi.87. *Scydmaenus rufus* Mull., under beech bark, Branbourne Park, Berks., 1.iv.88. *Hadrognathus longipalpus* (M. & R.), in moss, Blints Quarry, Northumb., 1.vii.88. *Sunius (Hypomedon) debilicornis* Woll. farm hay debris, Helindon, Northants., 17.viii.89, new to Britain. *Plectophloeus nitidus* (Fairm.), red rot oak, Windsor, 2.viii.89. *Elodes tricuspidis* Nybohm, beating by pond, Brampton Bryan Park, Here., 19.vi.81, second British specimen. *Eubria palustris* (Germ.), sweeping, Eype Cliffs, Dorset, 4.vi.89. *Phloiophilus edwardsi* Steph., on lime branch, Rockhampton Park, Northants., 13.x.85. *Meligethes bidentatus* Bris., sweeping, Collyweston Quarry, Northants., 11.viii.89. *M. erichsoni* Bris., on horseshoe vetch, White Down, Surrey, 1.vi.89. *M. solidus* (Kug.), sweeping, Collyweston Quarry, Northants., 11.viii.89. *Monotoma bicolor* Villa, manure heap, Earls Barton, Northants., 3.ix.89. *M. longicollis* Gyll., *M. spinicollis* Aube, *M. testacea* Motsch., and *Cryptolestes pusillus* Schoenh., all in farm hay debris, Helindon, Northants., 17.viii.89. *C. confusus* Bruce, in beech log, High Standing, Berks., 11.iv.87, new to Britain. *Micranthe lindbergorum* (Bruce), on *Genista* sp., Collyweston Quarry, Northants., 31.vii.85. *Atomaria morio* Koll., in mole nest,

Rockingham Park, Northants., 15.iii.86. *Mycetophagus populi* (F.), rotten ash heart wood, South Wood, Northants., 26.iv.86. *M. quadriguttata* Mull., oak hollow debris, Branbourne Park, Berks., 10.vi.88. *Myrmecixenus vaporariorum* Guer., farm hay debris, Helindon, Northants., 15.viii.89. *Tetratoma ancora* F., on hornbeam, Crumps Wood, Sussex, 5.v.89. *Anthicus bifasciatus* (Rossi), manure heap, Newton, Northants., 30.ix.89. *Cryptocephalus bipunctatus* (L.), and *C. nitidulus* F., on birch, Hackhurst Down, Surrey, 1.vi.89. *Nanophyes gracilis* Redt., on *Pelis portula* L., Stedham Common, Sussex, 2.vi.89. *Otiiorhynchus porcatus* (Herbst), grubbing, Blints Quarry, Cumber., 1.vii.88. *Strophosomus curvipes* Thoms., under heather, Studland, Dorset, 3.vi.89. *Tanymericus palliatus* (F.), sweeping, Eype Cliffs, Dorset, 4.vi.89. *Lixus scabricollis* Boh., under sea beat, Cockleshell Beach, Grain, Kent, 28.viii.88. *Rhinocyllus conicus* (Frol.) thistles, Eype Cliffs, Dorset, 4.vi.89. *Bagous czwalini* (Seidl.), pond vegetation, Battamsley Pond, New Forest, 29.vi.89. *Coeliodes nigratarsis* Hart., on young birch, Loch Garten, Inv., 6.viii.87. *Baris analis* (Ol.), on fleabane, Whitecliff Bay, I.o.W., 7.v.89. *Tychius quinquepunctatus* (L.), on bitter vetch, Croxton, Norfolk, 15.vi.89. *Ellescus bipunctatus* (L.), on sallow, Ashdown Forest, Sussex, 5.v.89.

EDMUNDS, H. — *Stenocorus meridionalis* (L.), inside a house, Cholderton Estate, near Salisbury. *Carabus nitens* L., crawling on heathland near Bloxworth, Dorset. *Blaps mucronata* Lat., in stables, Cholderton Estate, near Salisbury.

FOSTER, A.P. — Noteworthy species recorded in East Anglia during 1989. *Leiodes fulva* (Er.), a single male taken at m.v. light, Winterton Dunes, Norfolk, 23.x.89. *Adestemia watsoni* (Woll.) a synanthropic lathridiid taken in two widely separated wetlands, Walberswick, Suffolk, between 1 and 15.vi.89, two examples in water trap, and Chippenham Fen, Cambs., one in a pit-fall trap, between 2 and 16.vi.89. *Dienerella filum* (Aube), one in the same water trap as *A. watsoni*. *Trachys troglodytes* Gyll., three bred from larval mines, Badley Moor, Norfolk, 14.vi.89. *Hallomenus binotatus* (Quen.), one in an m.v. light trap, Brundall, Norfolk, 30.viii.89. *Aphthona euphorbiae* (Schr.), three from Woodbastwick, Norfolk, 3.viii.89 and found to be common in flax (*Linum catharticum* L.) fields in East and West Norfolk. *Longitarsus tabidus* (F.), two from *Verbascum pulverulentum* Vill., Whitlingham, Norfolk, 13.x.89.

FOWLES, A.P. — River shingle Coleoptera in Cardiganshire. In terms of abundance, two species — the elaterid *Zoroachros minimus* (Bois.) and the carabid *Bembidion atrocoeruleum* Steph. — dominate the surface-active community and can be found on most shingle banks in good numbers. Other characteristic beetles include the ubiquitous hygrophile *Agonum albipes* (F.), several members of the genus *Bembidion* and a few staphylinids.

Bembidion punctulatum Drapiez, appears to occur only along the lowland stretches of the Cardiganshire rivers whilst *B. nitidulum* (Marsh.) inhabits shingle only at high altitudes (although it is frequent in other open-ground habitats in the lowlands). *Deleaster dichrous* (Grav.) is widely-distributed but only ever seen in small numbers whereas species such as *Lathrobium angusticolle* (Bois.) seem to be genuinely rare.

On the gravel-bed rivers of Cardiganshire there are several scarce beetles which live within the shingle bank matrix. Fine gravels support the greatest diversity and excavation can reveal the presence of a number of nationally uncommon species. The carabids *Clivina collaris* (Herbst) and *Perileptus areolatus* (Creutzer) usually occur just beneath the surface shingle layers but deeper down there is a distinctive group of tiny beetles that are adapted to life within the gravel-bed.

Many of the beetles which are prized as great rarities of the river shingle habitat are

probably fairly widespread in northern and western Britain but are merely overlooked. In the face of many threats to river systems more attention needs to be paid to the shingle fauna. With the present stage of knowledge it is almost impossible to evaluate which rivers are most deserving of conservation effort on behalf of their shingle invertebrates. For instance, prior to 1987 only one of the species displayed (*Brachygluta pandellei* (Saulcy)) had been recorded from Wales but recent studies have shown that at least *Coccinella quinquepunctata* L. and *Lionychus quadrillum* (Duft.) are common along the larger rivers of south-west Wales.

HALSTEAD, A. — Some local Coleoptera taken in 1989. *Dryops nitidus* (Heer), crawling on dunes, Branton Burrows, N. Devon, 16.vi.89. *Dryophilus pusillus* (Gyll.), one male in Rothamstead light trap, RHS Garden, Wisley, Surrey, 31.v.89. *Grammoptera ustulata* (Schall.), on hazel leaf, Hoe Stream, Mayford, Woking, Surrey, 13.v.89. *Colydium elongatum* (F.), on oak log pile, Pamber Forest, Hants., 21.v.89. *Nacerdes melanura* (L.), crawling on garden soil, Knaphill, Woking, Surrey, 5.vii.89.

HARLEY, B. — A single specimen of *Nicrophorus investigator* Zett., from Big Strand, Islay, 21.viii.89. The beetle was injured, having lost the whole or part of several of its legs. It was carrying 320 adult mites and 90 smaller (possible immature) mites.

HENDERSON, M.K. — Specimens of dung beetles and diagrams from the recent monograph of Hallter and Edmonds, showing the different patterns of nesting behaviour. These vary from a simple single tunnel to complex multiple 'nests'.

HODGE, P.J. — *Elaphrus uliginosus* F., Luccombe Chine, I.O.W., 3.v.87. *Bembidion decorum* (Zenk.), The Crumbles, E. Sussex, 14.ix.89. *Harpalus parallelus* Dej., Beachy Head, E. Sussex, 30.viii.89. *Licinus punctatulus* (F.), The Crumbles, E. Sussex, 15.ix.89. *Laccobius sinuatus* Mots., Totland, I.O.W., 14.v.89. *Leiodes rugosa* Steph., Lewes Downs, new to Sussex, 23.x.88. *Aclypea opaca* (L.), Westhay Moor, N. Somerset, 12.vi.89. *Neuraphes praeteritus* Rye, Lewes, E. Sussex, 7.vi.88. *Hypopycna rufula* (Er.), Lewes, new to Sussex, 27.ix.87. *Anotylus clypeonitens* (Pand.), Lewes, E. Sussex, 5.iv.87. *Oxytelus fulvipes* Er., Lewes, E. Sussex, 21.v.89. *Stenus oscillator* Rye, Colwyn Brook Marshes, Rad., 20.vi.88. *Tachyporus formosus* Matt., Whitecliff Bay, I.O.W., 31.v.87. *Falagria concinna* Er., Windsor, under oak log, 2.viii.89, new to Windsor. *Gynpeta ripicola* (Kiesenw.), Eridge Park, E. Sussex, 5.vii.88. *Atheta (Dilacra) difficilis* (Bris.), Ripe, new to E. Sussex, 17.iv.88. *Aegialia sabuleti* (Panz.), bank of R. Rother, Woolbeding, W. Sussex, 22.iv.88, new to S.E. England. *Geotrupes pyrenaicus* (Charp.), Hindhead Common, Surrey, 6.vi.88. *Heteroceris hispidulus* Kiesenw., The Crumbles, E. Sussex, 18.ix.89. *Dirhagus pygmaeus* (F.), Shapwick NNR, new to Somerset, 15.vi.89. *Anobium inexpectatum* Lohse, Lewes, E. Sussex, 21.v.89. *Anitis rubens* Hoffman, J.J., Windsor, 23.viii.89. *Dorcatoma dresdensis* Herbst, New Forest, 2.vi.89. *D. flavicornis* (F.), Bushy Park, Middx, from larva in fallen hollow oak, 16.x.88. *Malachius aeneus* (L.), Ashcott Corner, N. Somerset, 24.v.87. *Meligethes erichsoni* Bris., on *Hippocrepis comosa* L., Lewes Downs, new to Sussex, 18.v.89. *M. haemorrhoidalis* Forst., on *Lamium album* L., Lewes, E. Sussex, 10.v.89. *M. rotundicollis* Bris., on *Sinapis arvensis* L., Chattenen, W. Kent, 16.vi.88. *M. subrugosus* Steph., on *Jasione montana* L., Llansian, Caernarvon, 17.vi.87. *M. serripes* (Gyll.), on *Galeopsis angustifolia* Ehrh., Rye, E. Sussex, 26.v.87. *M. umbrosus* Sturm, on *Lamium maculatum* L., Shapwick NNR, new to Somerset, 13.vi.89. *Atomaria strandi* Johnson, Glynde, E. Sussex, 18.v.89. *Symbiotes latus* Redt., Lewes, new to Sussex, 6.ix.89. *Uleiota planata* (L.), Abbot's Wood, new to Sussex, 8.v.89. *Diaperis boleti* (L.), in *Polyporus squamosus* Fr. on *Populus nigra* L.,

Lewes, E. Sussex, 2.vii.89. *Donacia obscura* Gyll., Cwm Groynlllyn, Rad., 23.vi.88. *Mantura chrysanthemi* (Koch.), Anelog, Caer., 17.vi.87. *Brachytarsus fasciatus* (Forst.), Windsor, 15.vii.89. *Apion cineraceum* Wenck., on *Prunella vulgaris* L., Lewes Downs, E. Sussex, 29.viii.88. *Polydrusus sericeus* (Schall.), Westhay Moor, new to Somerset, 12.vi.89. *Cossonus linearis* (F.), Lewes, E. Sussex, 27.iii.89. *Dorytomus hirtipennis* Bedel, Heigham Sound, E. Norfolk, 13.vii.87. *Ceutorhynchus rapae* Gyll., on *Sisymbrium officinale* (L.), Meare Heath, new to Somerset, 10.vi.89. *C. viduatus* Gyll., on *Stachys palustris* L., Shapwick NNR, new to Somerset, 14.vi.89.

KEY, R.S. — *Dyschirius nitidus* (Dej.), Whitrigg NY2257, 27.vi.87. *Aepus marinus* (Strom), Lee Bay SS4746, 1.iv.89. *Trechus discus* (F.) Brotherscroft TF2744, 28.viii.89. *Asaphidion pallipes* (Duft.), Whitrigg NY2257, 27.vi.87. *Bembidion obliquum* Sturm, Haxey Grange Fen, SE7397, 17.v.87. *Bembidion humerale* Sturm, Crowle Moors SE7218, 4.viii.84. *Bembidion fumigatum* (Duft.), Haxey Grange Fen SE7397, 21.v.89. *Bembidion minimum* (F.), Dragonby SE9013, 2.viii.87. *Bembidion litorale* (Ol.), River Rye SE6182, 24.v.88. *Tachys parvulus* Dej., Crowland TF2309, 16.ix.89. *Pterostichus lepidus* (Leske), Hankley Common SU8841, 1.vii.89. *Pterostichus gracilis* (Dej.), Towyn Burrows SN3605, 17.vii.88. *Pterostichus oblongopunctatus* (F.), Bidcombe Wood ST8239, 24.iv.87. *Calathus ambiguus* (Payk.), Risby Warren SE9213, 2.viii.87. *Agonum nigrum* Dej., Cardurnock Flats NY1760 27.vi.87. *Agonum sexpunctatum* (L.), Chobham Common SU9665, 12.viii.87. *Amara fulva* (Muls.) Messingham Sand Quarry SE9003, 13.x.87. *Amara praetermissa* (Sahl.), Sandringham Warren TF6829, 30.vi.88. *Amara infima* (Duft.), Sandringham Warren TF6829, 30.vi.88. *Perigona longiceps* (Dej.), Hallsannery SS4524, 30.iii.89. *Harpalus parallelus* Dej., Great Morton Sale TL0497, 16.vi.85. *Harpalus azureus* (F.), Crook Peak ST3855 25.iv.87. *Harpalus smaragdinus* (Duft.), Brean Down ST2939, 25.iv.87. *Stenolophus skrimshiranius* Steph., Cliffe Marshes TQ7378, 3.vi.87. *Acupalpus consputus* (Duft.), Monewdon TM2358, 10.v.89. *Licinus depressus* (Payk.), Colleyweston Quarry TF0003, 10.x.85. *Badister unipustulatus* Bonelli, Taumberland TF2638, 28.viii.89. *Badister dilatatus*(?) Chaud., (female), Cliffe Marshes TQ7378, 3.vi.87. *Panagaeus bipustulatus* (F.), Towyn Burrows SN3605, 17.vi.88. *Chlaenius vestitus* (Payk.), Crowland TF2309, 12.vi.88. *Chlaenius nigricornis* (F.), Marsland Valley SS2217, 5.vi.88. *Dromius sigma* (Ros.), Inkle Moor SE7017, 28.iv.85. *Dromius longiceps* Dej., Fairfield Pit TA0724, 1.viii.87. *Lionychus quadrillum* (Duft.), Llanwrda, R. Tywi SN7130, 14.iv.89. *Cymindis axillaris* (F.), Risby Warren SE9213, 2.viii.87.

MENZIES, I. — Coleoptera from Ashted and Bookham Commons, Surrey, all previously unrecorded or notable. The following from Ashted Common. *Agrilus pannonicus* (Pill. & Mitt.) 4.vii.87, 13.vi.88, 3,9,12,20.vi.89, flying around dead oaks on sunny afternoons and sitting on adjacent vegetation. *A. sinuatus* (Ol.), 27.viii.79, 1.viii.87, beaten from hawthorn. *Opilo mollis* (L.), 16.vii.89, dead oak branch. *Lyxmexylon navale* (L.), 17,18.vi.89, 2.vii.89, males flying in numbers up to 10–20 round oak branches, females usually on trunks, both sexes rest on surrounding hazel and birch foliage. *Triplax aenea* (Schall.), 9.vi.89, in birch fungus. *Colydium elongatum* (F.), 20.v and 25.vii.87, under oak bark. *Pseudocistela ceramoides* (L.), 18.vi.88, beaten from hazel. *Lissodema quadripustulata* (Marsh.), 17.vi.89 fallen oak branch. *Rabocerus foveolatus* (Ljungh), 8.vii.89, fallen oak branch. *Orchesia minor* Walk., 15.vii.89, fallen oak branch. *O. undulata* Kraatz, 2.vii.89 on rotten oak trunk. *Abdera biflexuosa* (Curt.), 17.vi.89, fallen oak branch. *A. quadrifasciata* (Curt.), 18.vi.88, 12.vi.89, on fungi on dead oaks, fallen branches etc. *Phloiotrya*

vaudouri Muls., 28.vi.89, under oak bark. *Tomoxia biguttata* (Gyll.) 28.vi.87, 25.v.89, flying and running on oak trunks. *Grammoptera holomelina* Pool, 21.v.89, hawthorn blossom. *G. variegata* (Germ.), 24,25.v.87, hawthorn blossom. *Phymatodes alni* (L.), 30.v.87, fallen oak branch, present in large numbers in May and June during 1987 and 1988, but was absent in 1989. *Chalcoides nitidula* (L.), 23.ix.89, aspens. *Platystomos albinus* (L.), 30.vii.87 flying, 15.vii.89, oak branch. *Platypus cylindrus* (F.), 30.v.87, 3.iv.89, rotten oak.

The following were from Bookham Common. *Agrius sinuatus* (Ol.), 20,28.vii.84, hawthorn. *A. viridis* (L.), 13,22.vi.88 on and flying around fallen willow. *Phytoecia cylindrica* (Marsh.), 17,27.v.89 swept. *Zeugophora flavicollis* (Marsh.), 24.vi.51, 25.ix.88, 18.ix.89 on aspens. *Z. subspinosa* (F.), 1.vii.89 aspen saplings. *Chrysolina brunsvicensis* (Grav.), 20.x.88 on *Hypericum tetrapterum* Fr (*H. quadrangulum* auct.) and *H. perforatum* L. *Galeruca tanacetii* (L.), 27.viii.88 on low vegetation. *Chalcoides nitidula* (L.), 18.ix.89 mature aspen. *Chaetocnema arida* Foud., 12.x.89, swept. *C. confusa* (Boh.), 20.ix.89, swept from grass in heathy area. *Bytiscus betulae* (L.), 3,12.vi.88, aspen. *B. populi* (L.), 6.vi.53, 6.vii.86, 24.vi.88, 3.vi.89 mainly on aspen saplings. *Platypus cylindrus* (F.), 10.ix.88.

NATURE CONSERVANCY COUNCIL — An exhibit by the Coastal Shingle Invertebrate Survey Team showing the species of Carabidae recorded from Dungeness, Kent and Rye Harbour LNR, East Sussex during 1988 and 1989. From both localities were: *Trechus fulvus* Dej., *Stomis puniceatus* (Panz.), *Pterostichus macer* (Marsh.), *Calathus ambiguus* (Payk.), *Amara lucida* (Duft.), and *Panagaeus bipustulatus* (F.). From Dungeness only: **Omophron limbatum* (F.), **Dyschirius obscurus* (Gull.), *D. politus* (Dej.), *Bembidion pallidipenne* (Ill.), *Synuchus nivalis* (Panz.) *Bradycellus distinctus* (Dej.), *Stenolophus mixtus* (Herbst), *Licinus punctulatus* (F.), *Chlaenius nigricornis* (F.), *Odacantha melanura* (L.), and *Dromius vectensis* Rye. From Rye Harbour only were: *Harpalus serripes* (Quen.), *Dicheirotichus gustavi* Crotch, *Cymindis axillaris* (F.), and *Brachinus crepitans* (L.)

OWEN, J.A. — Beetles bred from eggs or reared from larvae. *Licinus punctulatus* (F.), larva found eating a snail under a stone near Webbington, Somerset 18.v.87, the adult appeared on 30.vi.87. *Dytiscus dimidiatus* Bergstr., larva taken Wood Walton Fen June 1979, fed on worms. full-grown larva emerged from the water, climbed up a small mound of sand at one end of the tank and burrowed into it to pupate, adult appeared a few weeks later. *Melanotus punctolineatus* (Pele.) larva found in a sandy area near Deal in May 1986. Like most elaterids, this species has a short pupation period in late summer but the adult remains in the pupal chamber until the following year. *Hemicoelus nitidus* (Herbst), from a small maple log, Windsor Great park, February 1984. Two adults emerged August 1985. *Ptinus palliatus* Perris, reared from a fallen oak branch, Windsor Great Park, March 1988. Adult emerged June 1989, second record for Windsor. *Coccinella distincta* Fald., eggs obtained from a female captured Esher Common 13.v.85. Larvae fed mainly on rose aphids (*Macrosiphum rosae* (L.)). Larvae stopped feeding on 8.vi.80, pupated a few days later and adults emerged on 24.vi.80, exactly five weeks after the eggs were laid. *Agrius pannonicus* (Pill, & Mitt.) larvae collected in February 1985 in a piece of thick oak bark from a moribund oak tree in Windsor Great Park. The adults emerged on 10.vi.85. *Axinotarsus marginalis* Ol., larvae in a fallen oak log, Windsor Great

* Ironically, these two species which were Rye 'specialities' were not found at Rye during this survey. The gravel pits in which they occurred had overgrown and appeared to be no longer suitable. R.A.J.

Park, March 1988. Numbers of adults emerged in June of the same year. *Tomicus minor* (Hartig), reared from a small branch of Scots pine, Loch Garten, Inv., July 1978. *Leperisinus orni* (Fuchs) larvae in a small ash log, Cornwood, Devon, October 1986. *Polygraphus poligraphus* (L.), reared from a portion of a dead spruce from Windsor Great Park August 1984. *Anobium inexpectatum* Lohse, reared from stems of dead ivy, Blean Wood, April 1982. The adults appeared in June. *Opilio mollis* (L.), reared from a fallen oak branch, Windsor Great Park, March 1988. The adult emerged in June 1988. *Dorcatoma dresdensis* Herbst, reared from a hard fungus on a willow, Earith, Cambridgeshire, July 1975. The beetles emerged over the next 12 months. An example of *Opilio mollis* emerged from the same fungus. Presumably its larva had been feeding on the *Dorcatoma* larvae. *Mesites tardii* (Curt.), larvae present in a piece of dead ash Mull, August 1970. *Molorchus minor* (L.), larvae in a portion of a dead spruce tree collected in May 1985. The adults emerged in May the following year. *Leptura scutellata* F., larva in a dead beech trunk in Windsor Forest. March 1985. The adult emerged in July. *Stragalia maculata* (L.), larva in a small branch of (?) beech in the middle of a woodants nest, Harewood Forest, March 1989. The adult emerged in June. The black marking on the specimen are much more extensive than in the typical form. *Bolitophagus reticulatus* (L.), reared from its usual habitat, the fruiting body of *Fomes fomentarius* from a dead birch, Glen Garry, Inv., July 1989. *Prionychus melanarius* (Germ.), larva from a rotten elm stump, Norton, Glos., July 1984. Adults emerged June 1985. *Pytho depressus* (L.), larva from under bark of Scots pine, Loch an Eilein. Inv., July 1985. Adults emerged August 1985. *Xylita laevigata* (Hellenius), larva from a very rotten standing Scots pine, Loch an Eilein, Inv., June 1986. Adult emerged July 1986. *Cteniopus sulphureus* (L.), larva found under a stone on cliff-top grass, Lizard, Cornwall, June 1989. *Ischnomera cyanea* F., larva in damp, rotten beech at Mickleham, Surrey, May 1989, adults overwinter in pupal chambers. *Anapedus nigrinus* (Herbst), larva found in a stump of Scot's pine, Loch an Eilein, Inv., May 1989. *Procræus tibialis* (Bois. & Lac.), larva in an old beech stump, Windsor Great Park. The larvae of this species are frequently associated with the weevils. *Stereocorynes truncorum* (Germ.) and *Rhyncolus lignarius* (Marsh.) on whose larvae they probably prey. *Gnorimus nobilis* (L.), from eggs laid by a wild female captured in the New Forest on a flower head of *Heracleum sphondylium* L. in July 1986. The larvae were kept in a plastic bucket holding sections of hard, though somewhat rotten, plum wood. Adults appeared in June 1988. They immediately mated and laid eggs from which a second captive generation is now being reared. *Gnorimus variabilis* (L.), reared from wild larvae kept in hard red heart-wood of oak. Eggs laid in July 1987 by some of the reared adults gave rise to larvae most of which are still (October 1989) growing but one produced an adult in June 1989. *Schizotus pectinicornis* (L.), flattened larvae live under bark of recently dead birch trees and fallen branches. They appear to feed on detritus or mould. The specimen was reared in dryish, rotten birch wood in a glass container. *Pseudocistela ceramoides* (L.), larvae resemble meal-worms. They live in rot-holes of oak, beech and other deciduous trees and are readily reared in the same way as elaterid larvae. *Prionocyphon serricornis* (Mull.), aquatic larvae often found in the pools which form at the roots of large trees, eating detritus formed from dead leaves. A culture was kept for several years through a number of generations in a pail containing a few inches of water with dead leaves and an emergent piece of wood for pupation. *Phytodecta polaris* Schneid., larvae live on the leaves of the dwarf willow *Salix herbacea* L. Eggs are laid in July and larvae are to be found in August. *Chrysolina crassicornis* (Hellenius) (= *latecincta* (Demaison)), eggs laid on *Plantago maritima* L. on which the beetles were feeding in the wild. The resulting larvae were

fed on *Plantago lanceolata* L. as this was more easily obtained. Pupation occurred at the end of June and adults emerged during the first two weeks of July.

The larvae of the elaterids (click-beetles) are better known than those of most beetles families moreover, those associated with rotten wood are relatively easy to rear. In most cases the beetles were reared in wood mould or soil essentially as described by the exhibitor (*Entomologist's Rec. J. Var.* 1986; **98**: 90. *Ampedus cardinalis* (Schiodte), larvae live in red-rotten oak. They have a somewhat roughened, slightly rounded, cone-shaped terminal segment which is typical of most of the other British *Ampedus*. *Ampedus ruficeps* (Muls. & Guill.), larvae have a smooth, almost cylindrical terminal segment with a hemi-spherical end. The larvae live mainly in well-rotted ancient oaks often in the lining of cavities in trunks and large boughs. *Elatér ferrugineus* L., largest elaterid found in Britain. The larvae are distinguished by the smooth, slightly tapering cone-shaped terminal segment. They are carnivorous and, in captivity, eat small worms and the larvae of *Dorcus*. *Limoniscus violaceus* (Muller), larvae have a flattened terminal segment with forked apical cerci (arms) almost enclosing a small circular space. (Note: this species is now scheduled under the Wild Life and Countryside Act and cannot be collected in any stage or studied in the wild or in captivity except under licence.) *Ischnodes sanguinicollis* (Panz.), larva resembles typical *Ampedus* species but has a terminal segment shaped as a linear, pointed cone. The adult was reared from a larva found at Windsor, February 1988 in wood mould below a bird's nest in a hollow beech tree — a typical habitat. *Megapenthes lugens* (Redt.), larvae resemble typical *Ampedus* species but end in a short, trifid spine. The adult was reared from a larva found at Windsor in February 1988 in rotten wood lining a cavity in a large section of fallen beech tree. The larva, with others, was living in wood containing colonies of the weevil *Stereocorynes truncorum* (Germ.) and it is likely that the *Megapenthes* larvae were preying on the weevil larvae. *Melanotus erythropus* (Gmel.), larva has a flattened terminal segment, ending in a blunt point with smaller bumps on either side. This is the commonest elaterid breeding in dead wood. *Agypnus murinus* (L.), terminal segment has a very characteristic shape. The predatory larvae of this species live in dry, chalky or sandy soil. *Harminius undulatus* (Deg.), a northern species whose larvae live under thick bark of dead, usually fallen birch trunks. The larvae have a flattened terminal segment, with branched cerci almost enclosing a small hole. *Lacon querceus* (Herbst), larvae are unlike other wood-inhabiting elaterids in that they are not chitinized except for the head and part of the first segment. They have well developed mandibles and live in dry, flaky, rotten oak wood, often associated with larvae of *Mycetophagus piceus* (F.) and on which the larvae of *Lacon* probably prey. *Ctenicera cuprea* (F.), like those of the preceeding species, larvae have a flattened terminal segment, ending in a pair of infusate, divergent, stout cerci almost enclosing a round space. The inner cerci has a short keel. They live in damp soil in hilly districts, up to altitudes of 3500 ft.

HEMIPTERA

ALEXANDER, K.N.A. AND GROVE, S.J. — Two rare Cornish bugs, *Lasiacantha capucina* Germ., the thyme lace bug, previously known only from Kynance Cove and Sennen Cove, W. Cornwall, but this year found widely from Beagles Point to Helston, W. Cornwall and most importantly at Nare Head, E. Cornwall. *Emblethis verbasci* (F.), known on mainland Cornwall only from Sennan Cove — the source of this specimen, 29.vi.89, other localities being the Scilly Isles and Sandwich Bay, Kent.

HAWKINS, R.D. — Some Heteroptera from home and abroad. *Arma custos* (F.), beaten from trees by a lake, West Germany, 16.vi.89. One of the predatory shield bugs of the Amyroteinae, resembling *Troilus*. *Orsillus depressus* Dallas, specimens bred from nymphs from Lawson's cypress in Surrey and compared to those collected in Spain. *Eurydema ornatum* (L.), from Spain. This species varies tremendously, and for accurate identification, the wings must be slightly raised to check the patterns on the abdomen. *Rhacognathus punctatus* (L.), from Surrey heathland. *Eurydema oleraceum* (L.), from Surrey and Berkshire. *Deraeocoris scutellaris* (F.), from Surrey heathland.

HODGE, P.J. — *Placochilus seladonicus* (Fall.), on *Knautia arvensis* (L.), Beachy Head, new to Sussex, 18.vii.89. *Capsus wagneri* Remane, Shapwick NNR, new to Somerset, 14.vi.89.

HYMENOPTERA

Ants, bees, wasps, sawflies, etc. have been poorly represented at the exhibition in recent years. The summer of 1989 should have been ideal for many of these insects and indeed there were more Hymenoptera exhibits than usual, although the order remains very much a minority interest. Identification difficulties are presumably the reason why the parasitic hymenoptera receive such little attention and are rarely displayed at the exhibition.

ALEXANDER, K.N.A. AND GROVE, S.J. — Two scarce ants collected in Cornwall during 1989. These were *Leptothorax tuberum* (F.) from Lower Predannack Cliff, W. Cornwall, 21.v.89, and Nare Head, E. Cornwall, 4.vii.89, and *Myrmecina graminicola* (Lat.) from The Strangles, Crackington Haven, 11.vi.89.

ARCHER, M. — Some local or rare aculeate wasps and bees taken in recent years in Yorkshire, the Isle of Wight and other areas. Pompilidae: *Agenioideus cinctellus* (Spin.), infrequent, Luccombe Cliffs, I.o.W., August 1988; *Aporus unicolor* Spin., local, Sark, Chan. Is., July 1989; *Arachnospila minutula* (Dahlbom), infrequent, Risby Warren, S. Humber, August 1985; *Priocnemis susterai* Haupt, infrequent, this record extends its northwards range to Sherwood, Notts., May 1987–89. Sphecidae: *Argogorytes fargei* (Shuck.), rare, several burrows in a vertical clay river bank exposed to sunlight, Keswick Fitts, W. Yorks., June–July 1988–89. Andrenidae: *Andrena alfenella* Perkins, rare, The Duver, I.o.W., July 1988; *A. nitidiusculus* Schenck and *A. pilipes* F., both rare, at Red Cliff, I.o.W., August 1988. Halictidae: *Lasioglossum angusticeps* (Perkins), rare, second confirmed record from I.o.W., at Luccombe Cliffs, August 1988; *Sphecodes miniatus* von Hagens, first confirmed record for Watsonian Yorkshire, collected W.D. Hincks, June 1951, at Spurn, N. Yorks. Anthophoridae: *Nomada fucata* Panz., cleptoparasite of the local bee *Andrena flavipes* Panz., at Beaulieu Heath, New Forest, July–August 1984–88; *N. lathburiana* (Kirby), cleptoparasite of the local bee *Andrena cineraria* (L.), at Barnaby Dun, S. Yorks, April–May 1987.

FALK, S.J. — The exhibitor showed a selection of mostly unnamed insects, including many aculeate hymenoptera, collected in Kashmir and Nepal in October–November 1987 and Crete in April 1989. A second drawer contained some notable aculeates collected in Britain in recent years. Pompilidae: *Auplopus carbonarius* (Scop.), Brownsham, N. Devon, 17.vi.89. Eumenidae: *Ancistrocerus antilope* (Panz.) with its cleptoparasite *Chrysis pseudobrevitarsis* Linsenmaier (Chrysididae) at Brownsham, N. Devon, 17.vi.89; *Symmorphus crassicornis* (Panz.), Pembrey Forest, Carm., 6.viii.85. Sphecidae: *Crossocerus binotatus* Lep. & Brullé, Wicken Fen, Cambs., 8.vii.89; *C. walkeri* (Shuck.), Stanford, W. Norf., 21.viii.85;